THE RAILWAY GAZETTE
A Journal of Management, Engineering and Operation
INCORPORATING
Railway Engineer · TRANSPORT · The Railway News
The Railway Times · Herapath's Railway Journal · RAILWAY RECORD.
RAILWAYS ILLUSTRATED · ESTABLISHED 1835 · RAILWAY OFFICIAL GAZETTE

PUBLISHED EVERY FRIDAY
AT
33, TOTHILL STREET, WESTMINSTER, LONDON, S.W.1

Telegraphic Address: "TRAZETTE PARL., LONDON"
Telephone No.: WHITEHALL 9233 (6 lines)

Annual subscription payable in advance and postage free:
British Isles and Abroad .....£2 5s. 0d.
Single Copies .....One Shilling
Registered at the General Post Office, London, as a Newspaper

VOL. 75 No. 6 FRIDAY, August 8, 1941

CONTENTS

	PAGE
Editorials	125
Publications Received	129
The Scrap Heap	129
Overseas Railway Affairs	130
Signalling in New South Wales	131
Reminiscences of Colonel A. W. Rendell	132
Road Transport Section	133
Crossing Manufacture	139
French National Railways	140
Railway News Section	143
Personal	143
Transport Services and the War	146
Stock Market and Table	152

DIESEL RAILWAY TRACTION SUPPLEMENT

The August issue of THE RAILWAY GAZETTE *Supplement, illustrating and describing developments in Diesel Railway Traction, is now ready, price* 1s.

DISPATCH OF "THE RAILWAY GAZETTE" OVERSEAS

We would remind our readers that there are many overseas countries to which it is not permissible for private individuals to send printed journals and newspapers. THE RAILWAY GAZETTE *possesses the necessary permit and machinery for such dispatch, and any reader desirous of arranging for copies to be delivered to an agent or correspondent overseas should place the order with us together with the necessary delivery instructions.*

We would emphasise that copies addressed to places in Great Britain should not be re-directed to places overseas, as they are stopped under the provisions of Statutory Rules & Orders No. 1190 *of* 1940, *and No.* 359 *of* 1941

TO CALLERS AND TELEPHONERS

Until further notice our office hours are:—

Mondays to Fridays 9.30 *a.m. till* 5.0 *p.m.*

The office is closed on Saturdays

The Victory Rhythm

WAS a symbol of the ultimate victory of the Allies is fast sweeping throughout the world, and reports from many parts of German-occupied territory indicate that its heartening effect is by no means inconsiderable. There is one striking way in which British railways, doubtless unconsciously, are playing their part in impressing on the public ear the Morse rhythm of "V." There is no need to play it on the locomotive whistle, for it is being played unceasingly by the wheels of the trains as they pass over the joints between 60 ft. rails. It will be remembered how, many years ago, when the old London & North Western Railway had begun to roll 60 ft. rails at Crewe as their standard length, while other companies had got no further than 30 ft. or 36 ft., or at most 45 ft., with standard L.N.W.R. eight-wheel stock this became a rhythm peculiar to L.N.W.R. travel, which the regular traveller always mentally associated with that company. Now, with 60-ft rails in use all over Great Britain, it is the distinctive sound heard on almost all journeys in this island. So let this victory rhythm be a constant reminder to the travelling public of the tremendous share that the railways are taking, in ways vastly more important than this, in ensuring ultimate victory for British arms.

The Passing of an Eminent Mechanical Engineer

The death recorded in our Personal columns this week of Colonel A. W. Rendell marks the termination of a remarkable career at the advanced age of nearly 93. Born and brought up in Sussex, he joined the Locomotive Department of the former L.B. & S.C.R. at the age of 18, and, in the Brighton works and drawing office, and in connection with the cross-channel steamers, received an invaluable grounding in practical mechanical engineering under two eminent masters of the craft, Craven and Stroudley. What he owed to Stroudley is evident from his reminiscences, also published elsewhere in this issue, and his admiration for his genius was unbounded. After two years of further useful experience as an inspector of locomotives and other equipment, Mr. Rendell sailed for India in his 26th year, to take up a position on the East Indian Railway in 1873. So rapid was his advance that within four years he was offered and accepted the post of Chief Mechanical Engineer on the State Railways in Bengal. He returned to the E.I.R. in a like capacity in 1890. In both these appointments his Brighton experience in locomotive and marine work stood him in good stead, as he had to design steam ferries and other craft as well as reorganising the great Jamalpur workshops. The latter involved designing and building the first Siemens-Martin steel-producing plant in India, and he was also responsible for the first locomotive and tender built entirely in that country. Retiring from India, Colonel Rendell, as he had then become, was appointed General Manager of the Westinghouse Brake & Signal Co. Ltd. in 1901, and during the succeeding 21 years found new scope for his ingenuity and ability. This doyen of Indian railway mechanical engineering will be sadly missed by a very wide circle of friends, but the esteem and veneration in which he was held will long remain.

Factors of Heavy Passenger Traffic

The Ministry of War Transport has appealed to the public to abstain at the present time from holiday travel, and, indeed, from all travel not essential in the national interest. Railway companies have also enjoined holidaymakers to refrain from using public transport unnecessarily. Notwithstanding this, passenger traffic last week-end was, and for some weeks past has been, extremely heavy. In this many factors have played their part. Very large numbers of persons are being accorded essential holidays, and in many cases, instead of the normal fortnight or three-week break, the annual vacation has been split into two or more parts in order to interfere as little as possible with wartime production. Many persons, also, have been taking their holidays in the form of long week-ends. In the aggregate this has resulted in a good deal of additional travel, since in many cases, instead of one outward and one homeward journey to cover the holiday period, similar or possibly shorter journeys have been made for each

portion of the break. To this personal recreational travel have been added certain forms of passenger movements which have their genesis in Government schemes. There is, for instance, a considerable volume represented by persons visiting evacuated children; the movement of business men and women, resulting from evacuation of business premises from the centre of London and other large cities, either to or from the places in which they live, or possibly to their homes at week-ends. All this has been superimposed on the considerable volume of Governmental travel inseparable from wartime conditions, and, of course, the heavy movements of troops and Service personnel. Some indication of the numbers carried by certain popular trains from Paddington, to give only one instance, may be gathered from the striking figures which are reproduced at page 146.

An Unjust Criticism

The rush of holiday-makers last week-end not only provided the railway companies with a difficult problem of transport but has attracted to them stringent criticism in many sections of the press for the efforts they made to cope with a problem which was not of their making and which, indeed, they had taken steps to obviate. Despite the appeals of the Government to abstain from travel, all the main-line stations reported heavy crowds, to cope with which many trains had to be run in several sections. Reference to some of the difficulties presented by week-end travellers was made in an editorial article at page 103 of THE RAILWAY GAZETTE last week. The methods then outlined were in large measure adopted by the railways over the Bank Holiday week-end. Those who have been so ready to criticise the railways for the efforts they made to accommodate the passengers who persisted in travelling have overlooked the fundamental fact that the companies have no option but to conform to their Statutory obligation as common carriers to provide facilities for members of the public who purchase tickets. Criticism should be levelled, not at the companies whose difficulties were increased by the determination and necessity of some sections of the public to travel, but at the Government which, had it wished, could have banned certain types of travel or released the companies from their obligations for a specified period. Events of this kind, for which Government Departments are entirely responsible, whether by design or omission, all react adversely on the public goodwill of the companies.

Government Policy on Wages

In a White Paper recently published by the Stationery Office, and from which extracts are printed at page 145, the policy of the Government on price stabilisation and wage rates is given. The White Paper has had a critical reception and there can be no doubt that it is a disappointing document. In effect it reiterates a number of well-known platitudes appertaining to increases of incomes in wartime as related to a reduced availability of consumer goods, and the influence of an unbalanced demand for goods on the inflationary spiral. It does nothing to deal with the problems that are already in being throughout industry, and passes the responsibility to employers and workpeople to consider together all possible means of preventing a rise in costs of production, and so in the level of prices. It creates the impression that the compilers of the White Paper have refused to face up to their task, or that they have found the magnitude of that task beyond their capabilities. The Government makes it clear that it does not intend to take the advice of those who have urged the need for wage stabilisation, and is bent on avoiding modification of the existing machinery for wage negotiations. In normal times that attitude is not only understandable but commendable, but in conditions resulting from the war a stronger stand may be necessary. The railway industry itself provides an excellent example of the manner in which constant agitations for higher wages are met sooner than run the risk of having to work with truculent staffs. Indeed, the Government itself has made a poor showing in its resistance to demands for higher pay in various directions. The result of this is not only serious during the course of the war, but afterwards cannot fail to be fraught with grave dangers when the process of readjustment has to be tackled.

Overseas Railway Traffics

The improvement in the traffics of the British-owned railway companies in Argentina continues for the present, but it has been suggested that this more favourable position may not long be maintained because of crop marketing difficulties. In the third and fourth weeks of the new financial year the traffic increases of the four principal companies have been: Buenos Ayres & Pacific, 465,000 pesos; Buenos Ayres Great Southern, 116,000 pesos; Buenos Ayres Western, 255,000 pesos; and Central Argentine, 572,500 pesos. Among Brazilian Railways the Leopoldina shows an improvement of £72,720 for the first 30 weeks of 1941.

	No. of week	Weekly traffics	Inc. or decrease	Aggregate traffic	Inc. or decrease
Buenos Ayres & Pacific* ...	4th	1,370	+ 202	5,447	+ 1,031
Buenos Ayres Great Southern*	4th	2,031	+ 104	7,445	— 209
Buenos Ayres Western* ...	4th	752	+ 106	2,892	+ 400
Central Argentine* ...	4th	1,752	+ 206	6,618	+ 905
		£	£	£	£
Canadian Pacific	29th	886,000	+ 204,400	22,494,800	+ 5,427,800
Bombay, Baroda & Central India	16th	192,750	— 37,500	3,212,925	+ 61,050

* Traffic returns in thousands of pesos.

Aggregate gross earnings of the Canadian Pacific Railway for the first six months of 1941 amounted to £19,968,000, an increase of £4,891,000, and the aggregate net earnings of £3,983,800 showed an improvement of £1,456,600 over the first half of 1940.

Control of Thomas Cook & Son Ltd.

As was briefly recorded in THE RAILWAY GAZETTE last week, the British railway companies are negotiating to obtain control of Thomas Cook & Son Ltd., the well-known travel organisation. As yet completion of the discussions is still to be reached, but there can be no doubt that there would be wide satisfaction at the successful outcome of the talks, which would result in the return to British hands of the control of the company which, since 1928, has been held by the Compagnie Internationale des Wagons-Lits et des Grands Express Européens. Under the Defence Regulations the shares of Thomas Cook & Son Ltd., owned by the Wagons-Lits Company, are vested in the Custodian of Enemy Property. The Custodian has no money with which to finance Thomas Cook & Son Ltd. and it is partly for that reason, and in order to preserve such an old established concern, that the sale is being negotiated. It is understood that the Wagons-Lits holding is regarded as a holding by a private enemy company. In such cases the Custodian is empowered to arrange for a company to continue working if its business is considered to be of national importance, or to wind it up. In the present case he has endeavoured to see that the company may carry on. The Custodian is not permitted to fix the price at which shares vested in him are sold, but a fair price is fixed by one of the six largest international firms of accountants. Before the transaction may be concluded it is necessary for an order to be obtained from the Board of Trade.

Centenary of Fenchurch Street Station

Fenchurch Street station, which became a centenarian on August 2, and is the oldest London terminal of the L.N.E.R., is less well known to the public than some of the other main-line terminals, but nevertheless it has had an interesting and colourful history. Situated in a side street connecting Fenchurch Street with Hart Street and Mark Lane, it is in the heart of the City's shipping activities and within easy reach of Mincing Lane tea market, Mark Lane corn exchange, Billingsgate fish market, and others. For the first twenty years of its existence Fenchurch Street station had the distinction of being the only London terminal actually within

the City boundaries. In 1841 the London & Blackwall Railway (originally known as the Commercial Railway and opened July 6, 1840), which with rope-drawn carriages served Blackwall, Poplar, West India Docks, Limehouse, Stepney, Shadwell, and Minories, was extended to Fenchurch Street and this new terminal then became the headquarters of that railway. In 1849 steam-hauled trains replaced the rope-drawn vehicles and in the same year the further extension of the line from Stepney to Bow to link up with the Eastern Counties Railway (later known as the Great Eastern Railway) was completed. Two years later, North London Railway trains began to use Fenchurch Street as their City terminal, an arrangement which lasted until 1865 when the Dalston Junction to Broad Street line was opened.

The Welsh Highland Railway

After four years of uncertainty as to its fate, the 2-ft. gauge Welsh Highland Railway has been purchased for dismantling by George Cohen, Sons & Co. Ltd., and some 1,200 tons of relayable rails, several thousands of sleepers, and a considerable tonnage of scrap will become available for the National War Effort. The railway extended from Portmadoc to Dinas Junction, in Caernarvonshire, about 21½ miles, through some of the most beautiful country in North Wales, including the Aberglaslyn Pass; but it has not paid for many years, although there was at one time a fair traffic in timber, as well as slate from the neighbouring quarries. The section originally called the North Wales Narrow Gauge Railway was opened from Dinas Junction to Quellyn on May 21, 1877; passenger traffic began on August 15 of the same year. An extension to Snowdon Ranger was brought into service on June 1, 1878, and the further 2 miles to South Snowdon (Rhyd-ddu) on May 14, 1881. An earlier horse-operated mineral line had existed from about 1863 along the southern part of the Welsh Highland route. The Welsh Highland Railway (Light Railway) Company was incorporated on March 30, 1922, to acquire the two undertakings and to link them; the through line was opened on June 1, 1923. In 1934 the railway was leased to the Festiniog Railway, but it was found necessary to suspend passenger traffic on September 19, 1936, and all traffic on June 1, 1937. There are two locomotives; a Russell 2-6-2 tank built in 1906 by Hunslet, and a Baldwin 4-6-0 tank built in 1917. The latter was secured by the R.O.D. during the last war and subsequently purchased by the Welsh Highland in 1919. The name-plates, number-plates, and makers' number-plates of these locomotives are being handed over to the Railway Museum at York at the request of Mr. V. Boyd-Carpenter.

Should the Single be Revived?

Some persons hold the view that a useful purpose might be served by reviving the single driver type of engine with modernised features. Given a larger boiler fitted with superheating, increased boiler pressure, and better front-end arrangements, it is suggested that such a type might be used for working trains of fair loading economically at high speed. Carefully designed cylinders with well-planned valve motion, ports, and piping would add to the general efficacy of the design, and, now that rail and structure standards permit of as much as 23 tons being carried by a single axle, the question of adhesion weight would not present so much difficulty as heretofore. It is true that the single driving wheel steam locomotive may be the simplest and least frictional of all the types, and when such engines were common they were credited with very low coal consumption and maintenance costs. Nevertheless, train loads were moderate and running conditions generally easier than now. The provision of a larger and more efficient boiler working at a higher pressure is not in itself an advantage unless used in conjunction with corresponding larger cylinders and increased adhesion, and seeing that locomotives with coupled wheels can run quite freely at high speeds with increased loads, whilst possessing superior starting and grade climbing abilities, the revival of the single driving type would hardly be justified in modern railway traffic conditions.

British-Owned Railways in Argentina

FOR several years past rumour has toyed with the idea that an arrangement may be reached under which the British-owned railway companies in the Argentine would be transferred to local ownership. It is known that at one time there was afoot a proposal to sell the undertakings to the Argentine Government; that project is now known to have been dropped. It is stated that it has been realised that the hazards of war-time render extremely difficult the task of negotiating any arrangement of this kind on terms equitable to all parties. On numerous occasions suggestions have been made by Argentine deputies and others that the control of the British-owned companies should be transferred to Argentina and that the lines should be merged in the State system. It is probable that the Argentine authorities themselves would welcome such a development, and there is no doubt from the speeches which have been made by the Chairmen of the British-owned lines that the British interests involved appreciate the Argentine point of view and would be prepared to collaborate on reasonable terms in bringing it about. There is good reason also to believe that the British Government has looked with favour upon a deal of this kind, but the times are not propitious for a financial operation of the magnitude which would be required to transfer so large a block of valuable assets.

Argentina has suffered acutely from the difficulty of disposing of her primary products as a result of the shrinkage in her markets affected by the war; the immobilisation of her crops at the same time had the most serious effects upon the revenues of the companies. Whereas, on the one hand, it would be difficult for Argentina to raise finance for the deal, it would be equally difficult in present circumstances to arrive at a fair basis of compensation for the owners of the lines since there is so wide a disparity between the present earnings of the companies, their potential revenues, and their value as a part of the Argentine transport system. There is little doubt that with the return of peace and the concomitant necessity of providing vast tracts of a weary and hungry Europe with cereals and meat there will be heavy calls upon the Argentine, which is so rich in these primary products. Movement of these products to the ports will be immediately reflected in the traffics of the railways, and until that time it is in the interest of the Argentine no less than of the companies' proprietors that the necessary steps should be taken to enable the lines to be maintained in a reasonable state of efficiency so that they may be able to meet the demands which will then be made upon them.

In an interview given to the financial press recently Mr. J. M. Eddy, Chairman of the Buenos Ayres Great Southern and Western Railway Companies, said that he regarded the sale or pledging of British-owned Argentine railways as in abeyance until after the war. He added that the railway companies were constantly pressing for better terms from the Argentine Government in the matter of foreign exchange remittances and freight charges locally. The companies had not, as yet, received any answer from the authorities in Buenos Aires to their representations, and the difficult position in which those authorities found themselves, owing to the unusual economic conditions through which the country was passing, was fully appreciated by the railway companies. The railways were essential to the prosperity of Argentina and he believed that this aspect of the matter was also clear to the Argentine Government. Mr. Eddy went on to say that the better Argentine railway traffics recently recorded were due to the guaranteed minimum payments of the Argentine Government to its farmers for grain crops, which had resulted in a movement of grain towards the port installations. The capacity of the latter was limited, and the time might be approaching when it would be filled, and the lifting of grain crops would then cease until freight had been found for their removal overseas. He did not hold the view that such a cessation would necessarily imply a very great reduction in traffics generally; the fact that the farmers had guaranteed payments meant that they had funds to make a variety of purchases which the railways would then carry. If the Argentine Government modified the minimum payment the amount of traffic would certainly be affected. Mr. Eddy concluded by saying that the necessary restriction on imports into Argentina was making for a very great

development of indigenous industry, and that this was also helping railway traffics.

Kenya & Uganda Railways and Harbours

THE Kenya & Uganda Railways & Harbours Administration operates 1,625 miles of metre-gauge railway, 3,853 route miles of steamer services, and 75 miles of road motor transport (exclusive of motor feeder services), as well as the harbour of Kilindini. The main line, 879 miles in length, runs from the Indian Ocean at Mombasa in Kenya, to Kampala near Lake Victoria, in Uganda, with a 134-mile branch from Nakuru to Kisumu. A connection with the Tanganyika Railways is made through the Voi—Kahe line of 92 miles. Other branches serve the Eastern Uganda cotton districts, the soda deposits at Lake Magadi, and other fertile areas. The annual report recently received from Brigadier-General Sir G. D. Rhodes, the General Manager, shows that the combined earnings from all services in 1940 amounted to £3,203,367, an increase of £325,987, or 11·33 per cent. on 1939. Ordinary working expenditure, exclusive of renewals, was £1,616,850, an increase of £74,804 or 4·85 per cent. The net earnings balance of £1,304,397 over total expenditure on revenue account is equal to a return of 5·7 per cent. on the total capital expenditure of £22,983,621, and the surplus for 1940 over loan charges is £435,108, compared with £119,325 for 1939. Comparative results of the railway services (inclusive of lake steamers and motor road transport but exclusive of harbour services) are shown in the accompanying table:—

	1939	1940
Passengers	1,019,048	1,257,353
Public goods, tons	1,026,337	1,257,158
Revenue train miles	2,562,495	2,573,171
Public freight ton-miles	430,904,342	412,613,420
Operating ratio, per cent.	55·65	53·17
	£	£
Passenger receipts	211,493	292,779
Public goods receipts	2,091,782	2,184,752
Gross earnings	2,424,013	2,627,089
Working expenditure	1,348,865	1,396,738
To renewal funds	354,848	365,423
Miscellaneous transactions (net) ...	Cr. 124,762	Cr. 112,909
Net revenue	845,062	977,837
Loan charges, etc.	645,442	646,050
Surplus	199,620	331,787

The increased passenger travel was due almost entirely to the presence of a considerably increased population consequent upon wartime developments. In goods traffic, the movement of exports was the lowest recorded tonnage since 1933, the principal commodities affected being maize, cotton seed, and soda ash. Sugar and timber showed substantial increases, and public traffic, other than exports, remained at a surprisingly high level. Traffic operation was governed to a large extent by military necessity, and the nature of the traffic changed completely. The usual heavy seasonal movement of the export crops was absent. The decrease in long haul, good loading traffic, coupled with the much shorter haul and the more intensive movement of military traffic, much of which was not susceptible of good wagon loading mainly on account of the large volume of road vehicles handled, caused marked changes in the operating results. Light and assisting engine working greatly increased owing to military requirements. In spite of steep rises in the costs of material, stores, and fuel, the general low level of rates reached by successive stages over the last five years was maintained.

Two new Beyer-Garratt locomotives were received during the year and placed in service. These locomotives were the first instalment of a second order for six. The remaining four engines have since arrived in the Colony. Locomotive repair work was curtailed appreciably due to staff being engaged on war work. At the new permanent way depot a record number of points and crossings was manufactured during the year. Sleeper reconditioning plant has been installed and should be in operation during the present year. The increase in the quantity of coal consumed compared with previous years is accounted for mainly by the more extensive use of coal-burning engines, although the position in general was affected by increased engine mileage run. Although more extended use was made of wood fuel in order to conserve coal supplies, increased consumption of wood fuel resulted also from the large number of short runs undertaken during the year involving more frequent light ups.

The Railways of China

OWING to the occupation of nearly the whole of North and Eastern China by the Japanese during the past four years, the great bulk of the older railways in the country have been under Japanese control. For administrative purposes they have been taken over by two companies, unofficially subsidiaries of the South Manchuria Railway, and known as the North China and Central China Railways; they work in conjunction with the North China and Central China Transport Companies formed on April 17, 1939. The North China system includes the Peking-Mukden (Peiping-Liaoning) Railway west of the Great Wall; the Peking-Kalgan-Suiyuan; the Tientsin—Pengpu section of the Tientsin—Pukow (Nanking) line; the Kiaochow-Tsinan; the Lung-Hai east of Kaifeng; the Peking-Hankow north of Hsinsiang and possibly some sections further south also; the Tatung-Taiyuan-Puchow; and other less important lines; the total length is about 6,000 route-km. (some 3,700 miles). The Central system includes the Pengpu—Pukow section of the Tientsin—Pukow line; the Nanking—Shanghai, the Shanghai—Hangchow, and other lines, a total route-length of some 1,500 km. (900 odd miles).

On the other hand, the Chinese Ministry of Communications is carrying on in Chungking and controls the Lung-Hai Railway west of Chengchow, the Changsha-Shaokwan (Shiuchow) section of the Canton—Hankow line, the Hunan—Kwangsi line from Hengchow to Liuchow; the Kwangsi—Kweichow, open from Liuchow to the Kweichow border and under construction towards Kweiyang; and part of the Chekiang-Kiangsi Railway; various lines are under construction also, such as Kumming (Yunnan)—Burma, Kumming—Suifu—Chungking, Chungking—Chengtu, and Mehsien—Paochi—Tienshui, the westward extension of the Lung-Hai system. Parts of some of these are already open to traffic. At pp. 130 and 147 are given some details of one interesting group of the railways of Free China and of the work which it performs in Chinese strategy and economy. Hengchow (Henyang), a junction on the Canton-Hankow Railway, has developed as an important centre since the Sino-Japanese war began, and possesses railway shops and store yards in which are concentrated rolling stock and machinery which have been salvaged from all over the country.

"A History of the Southern Railway"

As many of our readers no doubt possess a copy of the volume entitled "A History of the Southern Railway" published by the Southern Railway Company in 1936, they will be interested to have the following list of errata which has been communicated to us by Mr. Dendy Marshall:—

Page 68 (map); read "Litchfield" and "Micheldever."
" 84, line 4; for "Lichfield" read "Litchfield."
" 104, second line under illustration; for "third" read "fourth."
" 214, footnote; add "The error was repeated on a new engine of 1868."
" 224, line 12 from foot; for "large" read "long."
" 234, par. 5, line 2; for "1885" read "1889."
" 319, par. 5, for "October 20th" read "July 23rd."
" 337, par. 5. Researches by Mr. A. C. W. Lowe show that the account of the Hackworth engines requires correction. There were 14 altogether, two of which were 2-4-0. They were originally numbered 47 to 60, the coupled ones being 48 and 55. Renumberings were 47 (55), 48 (110), and 55 (114). The rest of the details given are accurate.
" 344, line 2; after "wheels" insert "Nos. 162 and 163."
" 344, par. 2, line 8; for "147" read "174."
" 378, par. 3, line 7; omit "(afterwards President)."
" 432, line 3; for "Folkestone" read "Folkstone."
" 458, last par., line 2; for "also be" read "be also."
" 461, line 4; for "them" read "the mails."
" 474, par. 4, line 1; for "the year" read "1860."
" 476, line 3; for "Folkestone" read "Folkstone."
" 502, line 7; for "682" read "685."
" 535, last par. but one; for "pioneer railway company" read "first in this country."
" 555, line 7; read "300 to 400 tons of coal a day" instead of "150,000 tons of coal an hour."
" 558, last line but one; delete comma after "engines."
" 664, line 10 from foot; for "Race Horses" read "Racehorses."
" 667, line 3 from foot; for "M.B.O." read "M.V.O."
" 671, Locomotive Superintendents; insert between "J. Woods" and "J. Beattie," "J. V. Gooch . . 1841."
" 682, par. (b), line 5; after "(1914)" add "There is, however, a description of it in Vol. II, pp. 256-8.
" 683, par. (j); for "VIII, IX" read "VI to XI" and add "by William V. Cauchi."
" 692, right column, line 7; read "Folkstone" and transfer six lines down.
" 695, last line; for "Lichfield" read "Litchfield" and transpose to appropriate position as line 5 on p. 696.
" 703, Under "South Western Railway" delete "618, 619."

PUBLICATIONS RECEIVED

History of the Wisconsin Central. By Roy L. Martin. Boston, Mass.: The Railway & Locomotive Historical Society Inc., Baker Library, Harvard Business School. 170 pp., plus illustration plates. 9 in. × 6¼ in. Price $2.—During the past few years the railway world in general, and that in the U.S.A. in particular, has had cause to be grateful to the Railway Locomotive & Historical Society for the work it has done in preserving material which otherwise would be lost beyond recall, but so far no publication of the society has attained to the size and comprehensiveness of the volume now before us. The name Wisconsin Central is almost unknown to the younger generation, even in the U.S.A., but the line played no mean part in the development northwest of Chicago, and today it constitutes an important section of the Soo Line, from Chicago to Duluth, Minneapolis, and Ashland. The Wisconsin Central was the first to extend the railway system into the Lake Superior country.

One of the many interesting features of this history is the account of the inauguration by the Wisconsin Central organisation of seagoing freight train services by an organisation known as the Manitowoc Terminal Company, "an undercover subsidiary of the Central" which in 1895 quietly purchased all the available land around the river on the flats west of the town of Manitowoc, Wisconsin; eventually an important system of train ferries was evolved from this enterprise, running across Lake Michigan.

The volume covers all aspects of the story of the railway including short biographies of important personalities; a lucid statement of the corporate structure of the company; a construction record giving dates and precise mileages; and comprehensive tabular information of the locomotives and rolling stock. The volume is well illustrated with pictures of engines, stations, bridges, old timetables, and leading personalities.

University of Illinois Bulletins.—The following bulletins have recently been issued in Vol. XXXVIII by the University of Illinois, Urbana:—

No. 22: "An Analytical and Experimental Study of the Hydraulic Ram." By Wallace M. Lansford and Warren G. Dugan. Price 70 cents.

No. 27: "Fatigue Tests of Welded Joints in Structural Steel Plates." By Wilbur M. Wilson, Walter H. Bruckner, John V. Coombe and Richard A. Wilde. Price $1.

No. 28: "Seventh Progress Report of the Joint Investigation of Fissures in Railroad Rails." By Herbert F. Moore. Price 15 cents.

No. 37: "A Study of the Plate Factors in the Fractional Distillation of the Ethyl Alcohol-Water System." By Donald B. Keyes and Leonard Byman. Price 70 cents.

THE SCRAP HEAP

"Train Controllers"—V.V.V.

RAIL CUTS TODAY

IF RUSH HOLDS UP WAR TRAINS

SECRET CHECK

By Daily Mail Reporter

If this Bank Holiday week-end, the congestion of passenger traffic threatens to dislocate vital war transport, special measures will be put into force at once.

The plan has been carefully prepared and can be brought into operation at a few minutes' notice.

It may mean compulsory restriction of great numbers of holiday trains.

The signal to act will come from the train controllers of the four main railway lines. Today the railways are threatened with a "peace-time" rush.

From the "Daily Mail" of August 2, 1941.

* * *

London Transport has now 8,000 women doing the work of men called to H.M. Services or other Government duty. Conductors on buses, trolleybuses, and trams form the largest group; they number 5,000. Next come women porters, who number 600.

* * *

A HUNDRED YEARS OF "PUNCH"

The centenary of *Punch* recalls a delightful story in connection with the late Sir Frank Burnand, who in 1880 began an editorship of the paper which continued for over a quarter of a century. Sir Frank was a master of farce and an inveterate punster, and when he retired to live in the Isle of Thanet frequently wrote witty letters to the editors of the local papers. When trouble arose over the tramway system, Sir Frank suggested that Ramsgate and Margate should be renamed "Tramsgate" and "Cargate." It is said that his favourite pun and unofficial epitaph was "A Burnand is worth two in the bush."

* * *

The successful driving through of the tunnel beneath the St. Clair River at Sarnia, for the Grand Trunk Railway, under the direction of Mr. Hobson, of the A.S.C.E., is an achievement that will inaugurate an era of special activity in works of a similar character elsewhere. It is 6,000 ft. long between the portals, 2,290 ft. being under the river proper. It was driven through soft clays by a cylindrical steel shield forced forward by 24 hydraulic rams. . . . The rams worked independently, and with such accuracy that after a year's driving at the rate of 8 ft. per day, the two shields coming from opposite directions met exactly in line and level, having at no time varied more than 2 in. from true position.—*From the "Scientific American" of June*, 1891.

* * *

As a mark of respect to Mr. Arthur Curtiss James, whose death we recorded in our June 13 issue, all trains and operations on the Western Pacific Railroad were stopped for one minute at 7 a.m. Pacific time on June 7, simultaneous with the beginning of funeral and memorial services at 11 a.m. in New York City.

* * *

At the kerbside information booths established by London Transport and the main-line railways, 1,060,000 personal enquiries have been made since November, 1940. It is estimated that, in addition, 10,000,000 persons have consulted the blackboards and obtained their own information. The clerks do not limit their interest in the public to answering questions. A clerk at the Aldwych tube station has earned commendation for a neat piece of detective work. He saw a woman and a child pacing the pavement wearily and anxiously. They told him that they had an appointment. No one came and he enquired again. They explained that they were to meet friends coming from Edgware by way of Moorgate and that they were all to go to Romford. The clerk guessed that the rendezvous was not Aldwych, but Aldgate, where the coaches to Romford start. He sent the tired but happy woman and child to Aldgate by bus and telephoned a description of the friends from Edgware to a colleague at the information booth at Aldgate. The colleague found the waiting friends, and told them that the woman and her child were on their way. Soon all were setting out for Romford.

* * *

For quick thinking and smart work with an improvised tourniquet consisting of a handkerchief and a ginger beer bottle, Allan Hibbs, a messenger with the Canadian National Telegraphs, and now serving with the Royal Canadian Volunteer Reserve, has been given the special award of the St. John Ambulance Association. Hibbs promptly applied his first aid knowledge when a fellow passenger fell and crashed through a glass door cutting a leg artery.

* * *

According to Mr. W. E. Norton, Chief of Tariff & Ticket Bureau, Canadian National Railways, in ancient civilisations travellers by caravan or waterways were furnished with tokens usually of clay or papyrus. Though the form of tickets has changed with the years, the fundamental principle, according to Mr. Norton, remains the same, namely, a token or symbol of good faith on the part of the railway company to perform the service for which fare has been paid.

XUM

OVERSEAS RAILWAY AFFAIRS

(From our special correspondents)

SOUTH AFRICA

Pensions for Casual Workers

An Act has been passed to provide for the payment of pensions or gratuities to casual workers in the railway service. The administration employs a large number of workers who sometimes work over a total period of 37 years and who, on retirement, previously drew only a small gratuity. To meet the position of the intermittent worker the pension or gratuity will be calculated on a basis of 365 days representing a year. To avoid the temptation of squandering a comparatively large sum of money, discretionary power has been vested in the General Manager and, where a gratuity is required to purchase a house, to pay off a bond on a house, or for investment in some suitable asset, it will be allowed, but where there is no proof that the gratuity will not be squandered, the General Manager will have the right to refuse it. The basis on which the pensions or gratuities are calculated is as follows:—

Total service	Pension		Gratuity
	Emoluments at date of retirement		
	7s. 6d. a day or more	Less than 7s. 6d. a day	
Over 5 years but less than 15 years	(For each year of service) — £1 10s. p.a.	(For each year of service) — £1 p.a.	(For each year of service) 13 days' pay
15 years or more but less than 25 years			20 days' pay (approximately)
25 years and over	£2 5s. p.a.	£1 10s. p.a.	1 month's pay

Provision is also made for the dependents of casual workers who die while in the service and for the intermittent workers who die while not in the employ of the administration.

The scheme is non-contributory and will affect 8,256 Europeans, 7,723 coloureds, 541 Indians, and 41,397 natives, and will cost the administration £35,000 in the first year rising to £150,000 a year after ten years.

U.S.S.R.

Freight Compensation in Kind

Freight rates for consignments in transit through Soviet territory have always been paid in U.S.A. dollars. Recently, however, a new system was adopted by the Soviet Railways, whereby freight rates for transit goods using the Trans-Siberian route, as well as to and from Iran, are payable in kind. For this purpose, proportionate parts of the consignments are retained by the Soviet Railways and this sort of payment appears on the railway documents under the denomination of "freight compensation in kind." It is said that about 25 per cent. of the volume of goods concerned are usually claimed as "freight compensation," but it is stated that in certain cases even 30 or 40 per cent. may be retained.

Under this system any advance calculation of the rate payable in the form of "freight compensation" seems impossible, since there are no fixed rules or provisions as to the proportion which may be claimed under this scheme. It seems, though, that the proportion of the goods retained represents an item of considerable value bearing in mind the enormous lengths of the transit lines and the fact that only goods of a high intrinsic value can economically bear railway conveyance of these lengths.

CANADA

Rapid Bridge Span Replacement

A 120-ft. plate girder through type skew span was recently used to replace an older structure over Yonge Street at the entrance to Aurora on the main trans-continental line of the Canadian National Railways. This was accomplished one Sunday morning without interference to traffic by eight men only, with two derricks and winches, the old structure being moved out of alignment in 12 min. and the new span placed in position in 6 min., records in both cases, especially as the new span weighed over 440 tons. The replacement was carried out under the supervision of Mr. B. Wheelwright, Chief Engineer, and Mr. C. P. Disney, Bridge Engineer, Central Region, Canadian National Railways. The spans were slewed on rail skids in the ordinary way.

CHINA

Hengchow and its Free-China Railways

Hengchow (Henyang), a junction on the Canton-Hankow Railway, is a city that has grown out of all recognition since the war in China began. As well as having become a "reception area" for Free Chinese evacuees from northern and eastern China, it has developed into an important centre of an isolated railway system. From it lines run northwards to Changsha, capital of Hunan, southwards to Shaokwan, the railway suburb just to the north of Shiuchow, capital of Kwangtung—both parts of the C. - H. R. — and south - westwards through Kweilin, capital of Kwangsi, to Liuchow—the Hunan-Kwangsi Railway—with a further new extension from Liuchow north-westwards towards Kweiyang, capital of Kweichow, known as the Kwangsi-Kweichow Railway. The two latter lines are war-time extensions, both incomplete, but the Keichow line is still being extended.

At Hengchow are railway workshops and store yards, where are concentrated salvaged rolling stock and machinery of all kinds from all over the country, for future distribution throughout Free China. In consequence, this group of lines is equipped with some of the best locomotives—including the fine 4-8-4 C.-H. R. engines—and passenger stock in the whole country. The crack Belgian-built Green Train, from the Lung-Hai Railway of pre-war times, and the famous Blue Express, formerly on the Peiping-Shanghai service, have found their way there, and their Pullmans are well-kept and efficiently run over this group of new lines, hundreds of miles from their former routes. In the sidings is stock of all kinds from every part of China and even Manchukuo. The staff, too, has gravitated to this centre despite or because of bombs and shells, and is smart, well-informed, and courteous. This isolated little railway system is doing much to hold together the man-power and resources of Free China, being a link between its various strongholds in central, south-eastern, and south-western China.

SPAIN

Credits for New Construction and Electrification

Supplementary credits to the Extraordinary Estimates of 1940, provided for by a Law of March 8, 1941, include 75,000,000 pesetas for new railway construction, and 16,000,000 pesetas for the Madrid-Avila-Segovia and Barcelona district electrifications.

New Lines and Improvements

The inauguration has just taken place of the newly-constructed broad-gauge line between Tortosa and Prat de Compte. This is a section of the State-owned railway from Val de Zafan to San Carlos de la Rápita. It is hoped that the final remaining section from Tortosa to San Carlos will soon be completed, affording direct communication between Alcañiz and the coast.

The Minister of Public Works has announced plans for improvements on the Madrid-Santander line. Some 30 km. are to be relaid with heavier rails and 29 bridges are to be strengthened, to allow of the use of larger engines. Snow shedding is to be provided on the Pozazal pass, to avoid stoppages through snowdrifts in winter. With these improvements the journey from Madrid to Santander should be 1¾ hr. quicker.

The section Lérida-Balaguer, of the State-owned trans-Pyrenean line Lérida-Saint Girons, traffic on which had been temporarily suspended, has been reopened for merchandise only.

SOME REMINISCENCES OF COLONEL A. W. RENDELL

An indication of the varied career of this well-known mechanical engineer

FROM the biographical notes on page 144 relative to the late Colonel A. W. Rendell, it is obvious that his career was not only of unusual general interest and his versatility exceptional, but also that his experiences would have filled a volume of particular interest to technical men. As this is not possible, we give below a few of his reminiscences based on notes he gave the Editor in 1938. Shortly after Rendell was placed in charge of the drawing office in the Brighton works of the old L.B.S.C.R. (in 1868) by John Chester Craven, whose premium pupil he was, William Stroudley came from the Highland Railway to succeed Craven as Locomotive Superintendent at Brighton. As Rendell was Craven's pupil, he felt he had no direct demand upon Stroudley, and was therefore a little apprehensive of the effect of the change on his future career. His apprehension was, however, groundless, and Stroudley quickly approved of his work, and they very soon became great friends; this friendship proved of great benefit to Rendell throughout his career. On the other hand, it was not long before he recognised Stroudley's genius, which caused him to regard his new chief "as the most practical and clever engineer I have ever encountered."

Locomotive Design

During the time Rendell was in charge of the Brighton drawing office, Stroudley developed most of his plans for the improvement of the company's rolling stock, which called for standardisation in every detail. His designs were embodied in such locomotives as the goods engines Nos. 84 and 85, and these improvements were afterwards modified and introduced into the designs of the famous "Grosvenor" type of single-wheel passenger engine, and also in the even better known "Terrier" type of 0-6-0 tank engine. The latter, despite its small size, satisfactorily handled for years the South London and many other smartly-timed local services; also the manner in which it managed the heaviest main-line trains in shunting operations until comparatively recently was phenomenal. First built in 1872 and numbering in all some 50 engines, the Terriers are still to be found in many parts of the country doing yeoman service to this day, nearly 70 years later. The best known later development was, of course, the "Gladstone" 0-4-2 class.

Rendell was frequently kept late in the drawing office by his new chief, discussing the design of steamers on the Newhaven-Dieppe service. These, though the property of the Western of France Railway, were worked and kept in repair by the Brighton Railway. As a result of Rendell's ability and grasp of the needs of the situation, he was shortly afterwards placed by Stroudley in charge of the repairs and upkeep of these services and also of the Littlehampton-Honfleur steamers. In an interesting note made by Rendell upon these talks, he says: "In our discussions about the steamers we dwelt on the designs of the *Lyons* and *Orleans*, the hulls of which were built on Scott Russell's 'wave lines.' The voluminous treatise on these 'wave lines' was borrowed and consulted by us with reference to future designs of such steamers, and I understand that the results of these discussions were embodied in the subsequent steamers for this service, named the *Paris* and the *Rouen*." As is shown below, his steamship experience on the L.B.S.C.R. came in useful to him in India.

Rendell's two years' experience (1871-73) in inspection of locomotives and other equipment for the Indian State Railways, on behalf of Alexander Meadows Rendel—founder of the well-known firm of consulting engineers, Messrs. Rendel, Palmer & Tritton—was also invaluable to him in his subsequent career in India, and brought him in contact with the leading locomotive builders in Glasgow, Manchester, and elsewhere; it was a responsible job for a lad of only 25. Rendell's farewell advice from Stroudley—prior to his sailing for India in 1873—is typical of the latter's wisdom and of his regard for his young friend, for, after presenting him with a gold pencil-case, he said: "Now, my boy, remember never to give away all you know, but always keep something up your sleeve," words the value of which, Rendell admitted, he did not fully appreciate until later in life.

Ship and Marine Engine Design

In connection with his organisation of the first river steam ferries in India, running day and night—and connecting with train services—in the buoyed and lighted channels of the ever-changing great rivers of Bengal, Rendell designed and placed in service special shallow-draught paddle steamers and flats (or steel barges). The latter are of special interest, not only on account of their drawing less than 9 in. of water unladen, but because they carried large cargoes that could be loaded simultaneously on their double decks, in place of having holds. The hull space was, in fact, occupied by twin lattice diagonal bracings; also diagonal strut stanchions from the ends of the upper deck to the main deck together with the upper deck and its supports formed a stiffening truss for the hull. The overall length of these vessels was approximately 200 ft., the beam 36 ft., and draught loaded 2 ft. 6 in. The steamers he designed for these services were 190 ft. long by 27 ft. beam, with engines similar to those of the L.B.S.C.R. ss. *Paris*. They, too, displaced only 2 ft. 6 in. of water in working order, and were stiffened by twin lattice keelsons between bilge and upper deck, to make them proof against undue strains in case of grounding.

Steel Making

Due to the shortage of scrap iron for the rolling mills at Jamalpur (on the E.I.R.), in 1893, and the large accumulation of scrap steel on all the Indian railways, it was decided to establish the Siemens acid steel-making plant at those works. Two five-ton furnaces were built with gas producers and coke ovens, and were producing over 100 tons a month by 1897; the full capacity was 150 tons. As well as supplying steel for the foundry, this plant fed the rolling mill which turned out bars of all kinds, fish plates, tie bars for cast-iron plate sleepers, and other steel sections.

Signalling and Continuous Brakes

Rendell's earliest connection with signalling dates from his close touch with Farmer—afterwards partner in the firm of Saxby & Farmer—who was head pattern-maker at Brighton when Rendell was in charge of the drawing office. Under Farmer's direction he made drawings of his form of interlocking levers for points and signals. Rendell also prepared drawings for a different form of this apparatus for W. Buck, then an Assistant Engineer on the L.B.S.C.R., and afterwards with Saxby & Farmer, and, subsequent to 1890, in charge of the drawing and estimating in the firm of Dutton. After having, apparently, little to do with signalling throughout his service in India, Rendell on leaving that country became General Manager of the Westinghouse Brake & Signal Co. Ltd. in London.

He had, however, early connections with brake matters in this country and also later in India. In 1871 Stroudley introduced him to George Westinghouse, who was on a visit from America demonstrating the advantages of the continuous air brake in Great Britain, and Rendell was a party to discussions on that subject. The one shortcoming of the continuous brakes at that time was that they did not operate in case of a train parting, whether the type used was the Clark & Webb, the Heverlein (both chain brakes), the Barker hydraulic, or the Westinghouse straight air brake as then used on the Metropolitan-District system. This fact was clearly brought out in a report made by Rendell, at the request of Stroudley, on all the forms of continuous brakes then in use on the various railways.

It was not until 1888 that the subject of continuous brakes

(*Continued at foot of page* 132)

XUM

SIGNALLING IN NEW SOUTH WALES

Automatic signalling has been progressively installed for some years and an interesting system of aspects is used, both with semaphore and light signals

DETAILS of the excellent safety record achieved by the New South Wales Railways, due in no small measure to the progressive signalling policy adopted for many years by the administration, were given in an editorial note in our issue for January 31, 1941. Efficient signalling apparatus was early adopted in the State, based on British designs, with Preece's, Tyer's, and other block instruments, and with Tyer's tablet and Webb and Thompson's staff. A few sections of Sykes's lock-and-block were also, we believe, at one time in service. For a long period the McKenzie and Holland cam type locking frame was in universal use, but eventually a more modern type, using tappet locking, superseded it.

In 1911 the signalling came under the charge of Mr. C. B. Byles, formerly Signal Engineer of the Lancashire & Yorkshire Railway, who retired some years ago, but the block working and other electric signalling apparatus was not transferred to the care of his department until 1917. A year or two before that took place there were 74 double-line block sections worked by Preece's instruments, 84 by Tyer's (three-position), 22 by three-wire needle block, and 23 by an improved two-wire instrument, with starting signal control, designed in the Electrical Engineer's Department and arranged to give the three usual block indications and, in addition, a fourth one called "train arrived." No movement on this type of instrument could be made without the co-operation of the other signalman concerned. The double-line block then covered 483 route miles.

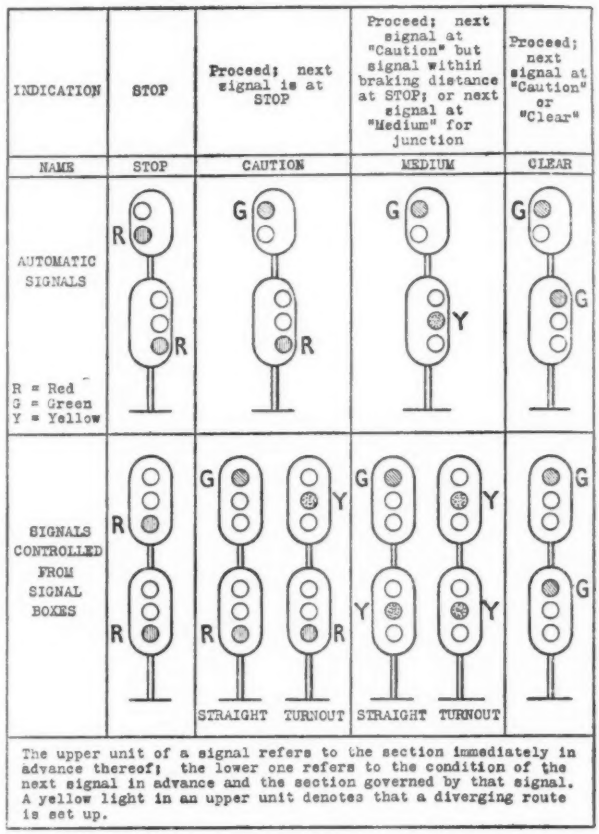
There were also 1,460 miles of electric single line token systems, comprising 72 sections controlled by electric staff, 66 sections of electric tablet, and 43 sections of automatic electric staff worked by the trainmen, and some 2,400 miles controlled by train staff and ticket, in conjunction with telegraph and telephone. Unattended crossing loops were frequently provided.

About 80 miles of double line had by then been fitted with automatic or semi-automatic signalling, or the track block system, as it was called in New South Wales, comprising 105 block sections. Considerable progress was soon made in eliminating very old equipment, such as the Preece block, and in extending the application of automatic signalling, together with other improvements, such as the electric lighting of signals and the use of the latest long-burning lamps where electricity was not available or conveniently applicable.

By the year 1922, automatic signalling was in use throughout the whole of the Sydney inner suburban zone and on certain important main-line sections, such as the Picton and Mittagong deviation, but numerous important extensions, including some on single lines, have since been made.

Power interlocking, on the electro-pneumatic system first made its appearance in 1910, that system being considerably extended in the immediate neighbourhood of Sydney during the next 10 years. All-electric equipment was also introduced in due course, and in one very interesting installation at Flemington no fewer than seven junctions were operated from one signal box. The telephone train control system is now in operation on several important sections of line.

Perhaps the most interesting feature of the New South Wales signalling, from the operating point of view, is the code of signal aspects used. The usual British aspects, using red and green lights only, were originally adopted. The first automatic signals were of the home and distant type, using the same aspects, but the three-position upper quadrant semaphore was later introduced and extensively installed. It was thought desirable to retain the same night aspects to which drivers were accustomed under mechanical signalling. The yellow light was, therefore, not adopted for the 45-deg. position, the arm showing a green light when in that position or when vertical, but a lower light, shown either from an electric lamp unit, or a spectacle moving before a lamp, showed red until the arm rose to vertical. With the adoption of colour-light signals for the Sydney electrified lines, however, the yellow light was introduced to produce the fourth aspect, equivalent to the British double yellow, and to control diverging moves, signalled previously, as a rule, by splitting signals. As will be seen from the accompanying diagram, there are two lights in every multiple-aspect signal, single lights being used only in two-aspect areas. It may be mentioned that New South Wales was the first State in the Commonwealth to have automatic signals and to apply alternating current to signalling. The present Signal Engineer is Mr W. F. Barton.


INDICATION
STOP
Proceed; next signal is at STOP
Proceed; next signal at "Caution" but signal within braking distance at STOP; or next signal at "Medium" for junction
Proceed; next signal at "Caution" or "Clear"
NAME
STOP
CAUTION
MEDIUM
CLEAR
AUTOMATIC SIGNALS
R = Red
G = Green
Y = Yellow
SIGNALS CONTROLLED FROM SIGNAL BOXES
STRAIGHT
TURNOUT
STRAIGHT
TURNOUT
The upper unit of a signal refers to the section immediately in advance thereof; the lower one refers to the condition of the next signal in advance and the section governed by that signal. A yellow light in an upper unit denotes that a diverging route is set up.

Colour-light signal aspects used on the N.S.W.G.R.

Some Reminiscences of Colonel A. W. Rendell

(*Concluded from page* 131)

again claimed his attention, as in India it was not considered necessary to go into the matter before that date. A committee of engineers then reported favourably on a form of atmospheric or vacuum brake, and Rendell endeavoured to convince them that the atmospheric type of brake required 2 lb. of coal more a train-mile to maintain the necessary power for creating the vacuum than was needed for storing the compressed air in the Westinghouse system. In spite of his protest, the atmospheric (vacuum) brake was adopted in India [mainly as it is considerably more simple to maintain with Indian labour—ED., *R.G.*]. A year later he also urged that improved braking of coal trains would avoid quadrupling the line between the coalfields and Calcutta, but the cheaper alternative of quadrupling was adopted.

ROAD TRANSPORT SECTION

This section appears at four-weekly intervals

Early Road-Rail Services

TWO anniversaries which have fallen during the past few weeks have directed attention to the fact that co-ordinated rail and road services are no novelty of the past few years, but were a recognised feature of public transport in the early days of railway enterprise. Ninety years ago, on August 1, 1851, the Great Northern Railway opened its line from Royston to Shepreth, thus giving rail communication between King's Cross and Shepreth and bringing the G.N.R. on the threshold of Cambridge, which had been connected by rail with London by the Eastern Counties Railway six years previously. To cater for Cambridge passengers the G.N.R. instituted a service of four-horse buses to work between Cambridge and Shepreth, so giving a road-rail service from London to Cambridge.

The G.N.R. opened an office in Cambridge and advertised through bookings between Cambridge and London. The fares were: 10s. first class, 7s. 6d. second class, and 5s. third class. On July 12, 1841, the section of line between Norwood and Haywards Heath was opened for traffic, and a few days previously the following announcement was made: "LONDON AND BRIGHTON RAILWAY—Open from London to Haywards Heath, from thence by Coach to Brighton." A daily service of four trains in each direction was operated. Two hours was the schedule for the run of 37¾ miles between London and Haywards Heath, and a further two hours were allowed for the 13-mile coach journey between Haywards Heath and Brighton. Incidentally, only rail passengers were conveyed on these road coaches. Brighton was linked with the Metropolis throughout by rail on September 21, 1841, and this interesting road-rail working came to an end.

Fashions in Names

IN the motorbus industry, since it came into being in the early days of this century, there has been a marked tendency to adhere to fashions in names, and it is often possible to estimate within a reasonable period of years the age of a company by reference to its registered title. In the early years of the century, when the generality of road passenger vehicles were of the horse-drawn variety, it was fitting that newcomers in the field of public service vehicles who were pioneers in the use of the internal-combustion engine should distinguish themselves by incorporating the words "motor omnibus" in their title. One of the earliest of these was the Birmingham & Midland Motor Omnibus Co. Ltd. Sometime later the description "road car," which had been used to a limited extent for horse buses, became popular for motors, and one of the first of the companies to bear this title was the Harrogate & District Road Car Company which was registered in 1906 and which still exists under its present title of the West Yorkshire Road Car Company. The East Kent Road Car Company saw the light of day in 1916, and the North Western Road Car Company in 1923, but by that time popularity had swung round towards "motor services" as a part of a bus company's title. The Maidstone & District Motor Services had been registered in 1911; the Southdown Motor Services and the Wilts & Dorset Motor Services in 1915, and Hants & Dorset Motor Services in 1916. Later registrations have shown a return to favour of "omnibus company" without the addition of the word "motor," since in the twenties this form of travel had become well established and the word had become almost redundant in the public mind. The United Counties Omnibus Company was registered in 1921, and in 1929 came the Eastern National Omnibus Company, the Southern National Omnibus Company, and the Western National Omnibus Company, while the South Wales Commercial Motors changed its name to the Western Welsh Omnibus Company. The foregoing instances are by no means exhaustive, but they tend to show the manner in which fashions have changed over the years. An interesting survival of road transport nomenclature is to be found in several companies which still maintain the description "traction" in their titles; one of the oldest of these is the Scottish Motor Traction Company which registered its title in 1905.

The Producer-Gas Lapse

QUESTION and answer in the House of Lords on July 16 emphasised that since the passing of the immediate invasion scare and the acceptance of the German occupation of France as an ordinary fact, the introduction of producer-gas road vehicles has sunk again into the background. The psychology which allows such things to be done is amazing; one would think that the war was over or as good as over, and that within a short time imports of petrol and fuel oil would be as in 1938-39. The somewhat easier general situation—or the appearances of such—have been taken as an excuse by literally hundreds of private and municipal operators to give up experiments or experimental intentions on the score of filtering difficulties, cylinder wear, loss of power, and schedule time and the like—difficulties which appear as mountains at two o'clock in the morning, but which are ordinary engineering problems associated with any new development when an effort is made to tackle them. This mentality shows an extraordinary lack of foresight, which has been helped by the equally remarkable behaviour of the producer-gas coal interests. Lord Snell, in replying on behalf of the Government on July 16, said that the recently imposed restrictions on the use of petrol should lead to an advance in the number of producer-gas vehicles in use in the comparatively near future. But more spectacular events would probably result in a greater number of quick conversions, though a spasmodic policy is not likely to lead operators anywhere. Amid the welter of apathy and confusion, the Tilling group of companies goes steadily ahead with producer-gas vehicles, and incidentally has one garage—Maldon—with nothing but producer-gas buses, and another, Cromer, in process of conversion to the same principle. Such acumen should bring a handsome reward long before the war is over, and probably after the war, too, for the Tilling policy must be unique in being suited as far as is predictable to both war and post-war conditions. Moreover, at a time of crisis it will enable road transport facilities to be provided while petrol and diesel buses are standing idle.

Kenya & Uganda Road Services

THE Administration of the Kenya & Uganda Railways & Harbours works 75 miles of road motor transport connecting Masindi Port on Lake Kioga with Butiaba on Lake Albert, and a collection and delivery service at Masindi Town. It had also worked a feeder service between Masindi Town and Hoima, but in view of the small amount of traffic offering, this service was withdrawn on May 15, 1940. The tonnage of public goods carried on the Masindi Port-Butiaba service in 1940 was 13,540, a decrease of 4,095 tons. Total tonnage carried on this service was 16,999, a decrease of 15 per cent. Public ton-miles (810,213) dropped by 28 per cent., but departmental ton-miles, in connection with work carried out at Butiaba, increased by 60 per cent. The decrease in the total ton-mileage was 19 per cent., compared with a reduction of 10 per cent. in mileage run. Enhanced fuel and oil costs also inflated ton-mile costs. Increased traffic with the Sudan was responsible for the improvement in the ton-mile receipts for public freight from 11·34 cents to 13·09 cents. Loaded mileage run was 285,910, against 308,251. The number of passengers rose from 26,437 to 30,229, and the total revenue from all traffic was £7,522, against £8,139. The total number of vehicles, exclusive of trailers, in service at December 31, 1940, was 19, compared with 21 the previous year.

XUM

Road Transport and the War—24

Disposal of buses and coaches—Further curtailments of passenger road services—The world fuel position—Road transport in Germany and Bohemia

The Minister of War Transport has made an Order under which, as from July 7, it is an offence to acquire or dispose of a registered bus or coach without his authority. Any person (dealers included) wishing to buy such a vehicle now has to make an application to a Regional Transport Commissioner for the necessary authority. It was previously necessary for persons other than dealers to have a licence to acquire a new or unregistered bus or coach.

Road Haulage (Operations) Advisory Committee

The Minister of War Transport announced on July 23 that he had set up the Road Haulage (Operations) Advisory Committee to advise him on the operation and development of the Government road haulage scheme. He has appointed Major G. A. Renwick to be Chairman of the committee and the following to be members: Messrs. I. Barrie, W. J. Elliott, C. Holdsworth, J. S. Nicholl, G. Smart, R. W. Sewill, and J. H. Turner. Mr. A. H. Lomas, of the Ministry of War Transport, is Secretary of the committee.

Casual Lifts for Servicemen

The Minister of War Transport has made regulations to the effect that, for the duration of the war, it shall be no offence to give a casual free lift to members of H.M. Forces in uniform in a vehicle being otherwise lawfully used under a Limited Trade Licence. The regulations, entitled the Road Vehicles (Registration and Licensing) (Amendment) Provisional Regulations, 1941, amend the conditions restricting the carriage of passengers on vehicles used under Limited Trade Licences.

Leeds ½d. Tram Fares Abolished

Workmen's ½d. single fares on the Leeds City Transport were abolished on Monday, July 7. Mr. W. Vane Morland, General Manager of the undertaking, said that it was uneconomic to maintain such a fare in present conditions, and added that passengers had protested against the practice of other passengers who took advantage of the ½d. fare to ride to the terminus on incoming journeys with the object of avoiding the queues for morning cars on busy routes. The half fare for schoolchildren is being retained. The ½d. ordinary single fare is still in use in Aberdeen and Newcastle.

Restrictions on Passenger Road Services

When fuel rationing for passenger road vehicles was introduced at the outbreak of war, it took a dual form. Pains were taken to ascertain the average mileage which was being operated before the advent of rationing and operators were given a basic ration proportionate to their normal peacetime usage. This petrol or diesel-oil they were permitted to use as they wished; if, however, they applied for a supplementary allowance, as was generally required, it at once became necessary for the operator to justify the use of every gallon, including that issued as his basic allowance, and for this reason he was required to keep a log of his journeys.

In May last the Government decided that the present rate of consumption of fuel by motor vehicles would have to be reduced. It also decided that for public service vehicles the scope for economy without damage to the war effort was to be found mainly in pleasure services (including the normal summer expansion of regular services) and in those long-distance express services which parallel railway services. The Regional Transport Commissioners were therefore instructed that, so far as long-distance express services were run throughout the year, they would be subject to further review, and supplementary rations would not be granted for a service, or section of a service, unless it could be justified by the absence of alternative facilities, or because of considerable inconvenience in making railway connections. Commissioners were also informed that they should confine supplementary rations for seasonal services to a minimum by limiting them to recreational services catering mainly for industrial workers and military personnel. It was also decided that supplementary rations should not be granted for sight-seeing excursions from holiday centres, since the Government's policy was to allow short holidays for the purpose of relaxation, but to restrict travel to the minimum.

Reduced Sunday Bus Service

By Order of the Minister of War Transport, substantial reductions of Sunday bus services in the provinces came into force on Sunday, July 6, so as to maintain fuel supplies for the weekday services, and to enable adequate transport facilities for war-production workers to be supplied. All duplicate and relief buses on Sundays were discontinued from the same date. Special early morning Sunday services for workpeople are not being curtailed. Acting on an intimation from the Regional Transport Commissioner that it is unadvisable to issue cheap evening and all-day Sunday tickets during the war, Hull Transport Committee has suspended such facilities from the beginning of July.

Road Haulage Industry : Essential Work

The Minister of Labour & National Service has agreed to accept for scheduling under the Essential Work (General Provisions) Order, 1941, undertakings engaged in the road haulage industry which operate twenty or more vehicles. For this purpose he is prepared to regard undertakings as being within the industry if they operate vehicles under "A" or "B" licences, or if they operate vehicles under "C" licence alone, provided in the latter event that they can properly be regarded as engaged in road haulage and have a separate and identifiable department or staff engaged in this; scheduling in such cases would be confined to that department. The limit of 20 vehicles includes all goods vehicles in the undertaking, whether under "A," "B," or "C" licences and whether in one or more Regions. The Order provides that, where an undertaking has been scheduled as engaged on essential work the permission of a National Service Officer is required before an employee can leave his employment or before he can be discharged for any reason other than misconduct. It also lays certain obligations on employers regarding terms and conditions of employment. All undertakings who desire to be scheduled under the Order should make themselves fully conversant with the provisions of the Order, and study pamphlet EDL.64 which may be obtained from any local office of the Ministry of Labour.

Any undertaking operating 20 or more vehicles which wishes to be scheduled should approach the appropriate Regional Transport Commissioner and request that its name should be submitted to the Minister of Labour & National Service. There is no special form of application, but any application should give the number of vehicles operated under "A," "B," and "C" licences (or permits) respectively, the Regions in which these licences (or permits) have been issued, the number of employees engaged on road transport work, and a short statement of the work for which the vehicles are used. The scheduling of undertakings engaged in the road haulage industry and operating less than 20 vehicles is still under consideration.

Licences Extended for Bus Drivers and Conductors

Under an Order made by the Minister of War Transport, drivers and conductors of public service vehicles are to have their licences or permits extended for a further period of one year from the present date of expiry. The Order, entitled "The Emergency Powers (Defence) Road Vehicles & Drivers (Amendment) Order, 1941," came into force on July 31. The holder of a public service vehicle driver's or conductor's licence or permit valid on that date need not, therefore,

apply for its renewal for another year from its present expiry date. New permits will again be issued for two-year periods.

First British Woman Bus Driver ?

Mrs. Ellen M. Davies, of Trealaw Road, Llantrisant, Wales, appeared on a summons at Llantrisant on June 13, charged with having failed adequately to screen a light from the destination board of her bus. Mr. D. Leonard Davies, defending, said she was the first woman in Great Britain to drive a public-service vehicle. The Chairman of the Bench, Mr. Gomer Thomas, announced that, in view of that fact, the case against her would be dismissed. There would be no conviction, but she would pay the costs.

Lorry Drivers and War Information

By reason of their work, lorry drivers are enabled to see and hear much of what is going on throughout the country, and for this reason they occupy positions of special responsibility. As a guide for drivers, the Ministry of Information has issued a pamphlet containing the following advice :—

DON'T brag about raids and the damage you've seen. The enemy wants to know what he has hit ; besides, your stories may be misleading other people.
DON'T tell canteen workers or people you meet on the roads what you are carrying. The movement of all supplies—munitions, food, timber, everything, in fact— is valuable information for the enemy.
DON'T say where you have come from or where you are going to. You may give away accidentally the position of stores or dumps.
DON'T talk about docks or ports. You may let slip a hint about the ships which are in or going out.
DON'T forget that if spies are about, they will be listening to you—because you see far more of what's going on than others do.

Passenger Road Transport Wages

The National Council for the Omnibus Industry, which caters for the company-owned bus undertakings, having failed to reach agreement on a claim for an increase in wages, a tribunal was constituted and the claim referred to it for decision. The tribunal consisted of Mr. W. Craig Henderson, K.C., Chairman; Mr. Humfrey Edmunds, appointed by the employers; and Professor Harold Laski, appointed by the employees. The award, which was published on July 10, states that the tribunal finds :—

(i) With regard to spreadovers, these vary greatly as between one undertaking and another and do not afford a ground for general increase of wages. The Tribunal, however, expresses the hope that the duration of spreadovers will receive the careful consideration of the various companies with a view to minimising as much as possible their duration.

(ii) The increased cost of living since June, 1940, and an increase in the intensity of duty arising from war conditions have adversely affected the employees and justify an advance in the war wage of the various classes of workers coming within the terms of reference.

(iii) That female conductors over 21 years of age should receive an advance at the same rate as that of adult male conductors.

The tribunal therefore awards and determines :—

(1) That in lieu of the present war bonus a war wage be paid to all male and female employees concerned calculated at an hourly rate varying with the age of the employee in accordance with the following scale :—

Employees concerned	An hour
(*a*) Of age 21 years and over	2½d.
(*b*) Of ages 19 and 20	1¾d.
(*c*) Of ages 17 and 18	1½d.
(*d*) Of ages 14 to 16 inclusive	¾d.

(ii) That the rates fixed by this award shall be operative as from the beginning of the first full pay week after April 5, 1941;

(iii) That nothing in this award shall be deemed to alter or affect the basic hourly rates of pay now in force for the several classes of employees.

The tribunal further awards and determines that, in view of the special circumstances on certain undertakings adversely affected by the war, any company a party to this arbitration may appeal against the application of this award in whole or in part to its undertaking on the ground of special circumstances prevailing in its undertaking. The appeal shall in the first instance be made to the National Council for the Omnibus Industry, and (failing a decision) to a tribunal of arbitration to be set up under the constitution of the council; the final decision on appeal shall be binding upon the parties.

The World Fuel Position

Reports from various parts of the world show that, with the continuation of the war, the petrol position is becoming more acute and various methods are being adopted to curtail the use of motor fuel or to produce alternatives. In Great Britain steps have been taken to reduce the consumption of petrol by both civil and non-essential military usage. Regulations have been introduced by the military authorities with a view to obviating unnecessary mileage, and supplementary allowances of petrol for civilians, which were reduced in the rationing period beginning with July 1 generally by some 20 per cent., have been made subject to further restrictions as to use. As from August 1 the basic ration for private motorists has been reduced by one-sixth, and a system has been introduced under which a log of every journey undertaken on supplementary allowances must be kept. At the same time the right of interrogation of motorists with a view to ascertaining the purpose to which the petrol they are using is being put has been accorded to Divisional Petroleum Officers. In this connection the Institute of Journalists has asked the Petroleum Department for an official ruling on these powers of interrogation as it has envisaged the possibility of a journalist being forced to make known the purpose of his journey, such as a visit to a particular person or a certain place to obtain information, which might contravene a journalist's right to refuse to disclose sources of information.

By Order of the Petroleum Board, prices of pool fuel oil, pool heavy fuel oil, and pool diesel oil, other than for road vehicles, subject to local adjustments, were increased on July 9 by 1d. a gallon, and the price of pool gas oil by one farthing a gallon. Previous prices in the London zone were : fuel oil 7½d. a gallon ; diesel oil 8½d. a gallon ; gas oil 8¼d. a gallon ; and heavy fuel oil 7d. a gallon.

In Australia the basic petrol ration for private motorists was halved as from July 1, and is limited to an amount equivalent to 1,000 miles a year for each car. Because of the petrol shortage Australia has begun a large-scale substitute fuel programme, the first object of which is the production of 22,000,000 gallons a year of power alcohol. Existing distilleries are to provide 7,000,000 gal. from molasses, rectified spirit distilleries are expected to deliver 5,000,000 gal., and new distilleries have an extraction programme amounting to 10,000,000 gal., using wheat exclusively. The result of the petrol rationing which began on July 1 has been to increase greatly the demand for small producer-gas plants, particularly for light lorries.

In New Zealand the petrol ration was cut 25 per cent. on August 1.

In Canada the Government has decided to postpone petrol rationing until the end of this year because of the value of the American tourist trade which would be adversely affected, but on July 16 the sale of petrol was prohibited between 7 p.m. and 7 a.m. on weekdays and throughout Sundays.

In India a petrol ration equal to 200 miles a month comes into effect on August 15.

On July 31, 100,000 U.S.A. petrol service stations in the Eastern States were ordered to close between 7 p.m. and 7 a.m., commencing on August 3.

In Sweden a decree became effective on May 5 subjecting to licensing all motorcar traffic and also the sale and use of lubricants. No new producer-gas units will be permitted to be sold unless the owner proves necessity and is able to obtain a licence. The licensing system also applies to motor boats and motor cycles, but not to electric cars.

It was announced from Madrid on June 29 that drastic reductions in petrol rations were to be put into effect in Spain on the next day. It was added that the existing petrol ration was so little that taxis were difficult to obtain in Madrid. Two days later it was stated that, after discussions between the British Embassy and the Spanish Government on the question of petrol supplies for the third quarter of the current year, satisfactory arrangements had been made for meeting Spain's needs, and as a result the Spanish Government had annulled the cut in the petrol ration. It was categorically denied by the British Ministry of Economic

XUM

Warfare that British authorities had reduced imports of petroleum into Spain.

On July 1 it was reported that private motor transport in Bulgaria had been stopped by Government Decree and that from that date forward all motor transport would have to bear a Government sign.

Road Transport in Germany

With the object of securing the most effective use of goods transport by road in Germany, some 4,000 transport groups or combines (*Transportgemeinschaften*), between them owning approximately 35,000 motor lorries, have been established. The membership of these groups includes some 130,000 trade and industrial firms, who pool their road transport resources by using their stock of vehicles in co-operation. Due to shortage of motor fuel, conveyance of merchandise over distances exceeding 10 km. (6·2 miles) is permitted only in those cases where sufficient return loadings are guaranteed to ensure the vehicle being used to capacity.

Some 70,000 motor vehicles are stated to have been converted to operate on producer gas or other gases.

The supply of tyres continues to be well below the current demand, and the entire output of the French Dunlop and Michelin works is said to be absorbed by the requirements of the German army.

According to an article in the *Volkischer Beobachter* for June 17, it seems that the lengthy *Reichautobahn* from Berlin to the North East has now been completed. This road, which is called *Reichfernstrasse No.* 1, extends from Berlin to the frontier of Lithuania. Two years ago, on the outbreak of war, the only sections which were completed and in use were those between Berlin and Stettin and between Elbing (near Marienburg) and Konigsberg. At that time the section from Stettin to the frontier at the Polish Corridor was under construction, and, as soon as Germany had absorbed Danzig and annexed the Polish Corridor, steps were taken to link the disconnected sections; it may be recalled that one of the suggested solutions of German-Polish friction in connection with the Corridor was that this motor road should be taken on viaduct across Polish territory, and should have extra territorial rights to avoid frontier customs delays, and so forth. This motor road crosses the River Vistula at Dirschau and so reaches Marienburg, which is described as " the proud symbol of German lordship in the New East." It appears that the main route avoids Marienburg by a short distance to link up with the previous East Prussian motor road at Elbing. The approximate state of the German motor roads at the outbreak of war was shown on the map reproduced at page 639 of our November 17, 1939, issue.

Road Transport in Bohemia & Moravia

Road transport in the German Protectorate of Bohemia & Moravia is now being regulated on similar lines to those in Germany. The German authorities have issued two orders (*Verordnungen*), one for the regulation of transport of goods in road vehicles, and the other for carrying out the order for the regulation of transport in road vehicles. Licences are required for all goods motor transport vehicles working beyond a radius of 50 km. (30 miles) from their home station. This licence is granted only when no rail or horse-drawn road transport is available, and only for carrying goods in the interests of defence and food supply. A previous order remains in force requiring all motor vehicles in the Protectorate to carry a permit which allows its use only in the general public interest. Licences are given either for one journey or for regular journeys during a period not exceeding three months. Special conditions are attached to journeys made from the Protectorate into Germany. Transport leaders (*Verkehrsleiters*) for all transport, as in Germany, have been appointed in Prague and Brno (Brunn). The system was described in THE RAILWAY GAZETTE of March 21, 1941, at page 335. The whole system in the Protectorate is under German control and under the jurisdiction of the German police and German courts in the country. Existing Czech regulations governing drivers and car licences remain in force.

Roads in Bohemia

The two Elbe valley roadways in Bohemia are being widened and straightened in expectation, it is said, of heavy post-war traffic. Plans for the extension of the *Reichsautobahn* from Reichenberg to Cheb (Eger) *via* Tetschen and Aussig are being pushed forward, as well as for another road to run behind the Schreckenstein.

Stalin's Highway

Recently the name " Stalin's Highway " was given to a new motor road, stated to have been completed at the end of April last, linking Stalinabad (Dushambe), the capital of the Soviet Republic of Tajikistan, with Khorog, near the frontier of Afghanistan.

Public Relations in Wartime

One of the noteworthy features of the wartime activities of large railway-associated motorbus companies has been the introduction of spirited and effective series of goodwill advertisements in local newspapers throughout the country. In peacetime motorbus advertising and publicity have been severely circumscribed, and such activities have been devoted mainly to the announcements of important service changes, and motorcoach trips. The cultivation of goodwill has been regarded as a matter for deeds rather than words, and most of the managements have assumed that members of the travelling public take little or no interest in administrative details and difficulties. With the introduction of wartime restrictions the bus companies have found that they are unable to preserve their goodwill by the adequacy of their services, and the result has been the inauguration of some interesting publicity campaigns. These may be divided broadly into two categories, namely, (*a*) seeking public co-operation to make the best use of limited facilities by travelling in non-rush hours, queueing at bus stops, and so forth; and (*b*) giving the reasons for inadequate services and explaining what the bus companies are achieving.

On the opposite page we reproduce 11 representative advertisements; previous specimens have appeared in our issues of February 21 (page 196), March 21 (page 326), April 18 (page 448), and June 13 (page 653). Tilling's Association has been responsible for planning the advertising of its group of undertakings, which are represented on the opposite page by the Eastern National Omnibus Co. Ltd., the Hants & Dorset Motor Services Limited, the Southern & Western National, and United Automobile Services Limited.

The Lincolnshire Road Car Co. Ltd. has adopted a distinctive style for two series of advertisements beginning with the phrase " A word from the bus-driver to you," and a picture of one of the company's drivers standing alongside the radiator of his vehicle. These announcements have explained the need for avoiding morning and evening rush hours by shoppers, and the need for pedestrians' care during blackout hours; and have contained simple pieces of advice to help wartime staff, such as having the exact fare ready, and grouping at one point when awaiting a bus to avoid frequent stopping of the vehicle.

Very similar series of advertisements were produced by the Birmingham & Midland Motor Omnibus Co. Ltd., and by the Crosville Motor Services Limited, each beginning with " An urgent appeal to the travelling public " to segregate shopping traffic from workers' traffic. Gradually the appeal was intensified (" Ladies! Ladies!! Ladies!!! some of you are not playing the game ") and eventually the stage of threatening was reached with " A final warning," saying that unless the travelling public not engaged on work of national importance would avoid travelling during peak hours the companies would be compelled to adopt a system of priority armlets to be issued to munition workers only. In fact, such a system was not adopted. Another distinctive feature of Crosville wartime advertising has been the introduction of information bulletins.

XUM

BETWEEN 10 a.m. and 4 p.m.

is the best time to SHOP and TRAVEL

You thus travel during the brightest part of the day, the buses are less crowded and there is more room for your shopping baskets, etc.

THE Maidstone & District MOTOR SERVICES LTD.

The Background of ENGLAND

is found in its remote country villages. Here the people are separated from the outside world entirely and have to rely on the country 'bus for getting them to their work, their market—and their amusement. Evacuation has trebled the task of the country 'bus—especially with the restricted vehicles, petrol and staff available—'Bus operators do their best—the rest is up to you.

THE WESTERN NATIONAL OMNIBUS COMPANY LIMITED

Head Office: QUEEN STREET, EXETER
Phone: Exeter 4181/2/3

Transport is Vital!

DON'T CLOG THE WHEELS

Every available 'bus is on the road to-day and we would ask you to appreciate the many difficulties with which we have to contend.

Do not add to our problems—help yourself by helping others

AVOID RUSH HOUR TRAVEL

and enable the workers to increase the war effort.

EASTERN NATIONAL OMNIBUS COMPANY LTD.

HEAD OFFICE
NEW WRITTLE STREET, CHELMSFORD

When waiting for the bus—

QUEUE UP!

- IT'S LESS DANGEROUS
- IT'S FAIRER
- IT'S QUICKER

ISSUED BY WESTERN WELSH OMNIBUS CO. LTD.

Our WAR EFFORT

We're rather proud of the fact that although our maintenance and operating costs have risen tremendously, our fares have not been increased—remember this if your bus is late or crowded, and appreciate that circumstances beyond our control are responsible.

UNITED

CROSVILLE

BUS SERVICE FACTS

READ THESE BULLETINS AS THEY ARE PUBLISHED AND WE SHALL UNDERSTAND EACH OTHER BETTER. WE WANT YOUR GOODWILL ALL THE TIME.

INFORMATION 3 BULLETIN

TRANSPORT FOR THE SERVICES

We cannot give you details of what has been done, but every call has been met promptly and large numbers of vehicles are often provided at thirty minutes' notice night or day.

Our organization built up over many years is at the instant disposal of the Naval, Military, Air Force or Civil Services and they have learned to rely on us in this respect.

We have carried many wounded in our ambulance buses and even towed fire pumps for the A.F.S. to help deal with big city blitzes.

SERVICE FOR THE SERVICES

CROSVILLE

BUS SERVICE FACTS

READ THESE BULLETINS AS THEY ARE PUBLISHED AND WE SHALL UNDERSTAND EACH OTHER BETTER. WE WANT YOUR GOODWILL ALL THE TIME

INFORMATION 8 BULLETIN

SPARE PARTS

It has taken the country eighteen months to realise that
NO NEW VEHICLES + NO SPARE PARTS
= NO TRANSPORT.

We are able to say that the country has now got to this stage
NO NEW VEHICLES + SOME SPARE PARTS
= SOME TRANSPORT FOR A TIME.

A little later we shall come to the final stage of
SOME NEW VEHICLES + SOME SPARE PARTS
= FIRST CLASS TRANSPORT.
which after all equals a FIRST CLASS WAR, and we shall be satisfied with nothing less.

OUR EFFORTS + YOUR SUPPORT
= FULLY SATISFACTORY SERVICES

There are More People—

to cater for owing to the evacuation from large towns and cities, but you can still travel in pre-war comfort by avoiding rush hours.

HANTS and DORSET MOTOR SERVICES LTD

MIDLAND RED D

A FINAL WARNING!

UNLESS the Travelling Public who are NOT ENGAGED ON WORK OF NATIONAL IMPORTANCE will stop travelling on MIDLAND 'RED' BUSES DURING PEAK HOURS we shall be COMPELLED to adopt a system of PRIORITY ARMLETS to be issued to MUNITION WORKERS ONLY

We MUST help the factories maintain production of Planes, Guns and Shells by providing the workers with a quick and comfortable ride to and from work. We welcome your patronage between 9.0 a.m. and 4.30 p.m. while the Munition Workers are slogging away in the factories, but we don't welcome you between 7.0 and 9.0 a.m. and 4.30 and 7.0 p.m.

SO PLEASE PLAY THE GAME and DON'T CROWD OUT THE WORKERS AT PEAK HOURS

SCHOOLS! SHOPS! OFFICES!
WILL YOU ALTER YOUR HOURS and AVOID THE PEAK TIMES?

We know some have already done so—but we want more help in order to reduce the crowds waiting for Buses during Peak Hours.
All our Omnibuses are on the Road at Peak Periods so that we CANNOT INCREASE our SERVICES

People leaving the town each day must travel out BEFORE 4.0 p.m. and travel back AFTER 9.0 a.m. At the present you are crowding out the workers and you must stop it or we shall have to ask the proper authorities to prevent you travelling during Peak Hours This is the time for PLAIN SPEAKING so take it in the proper spirit and PLAY THE GAME

Let us ALL PULL TOGETHER and HELP PRODUCTION
So that we can provide the munitions to FIGHT AND KEEP ON FIGHTING

Keep clear of PEAK HOURS and allow the workers TO TRAVEL IN COMFORT so that they will not LOSE TIME OR GO SICK.
HELP THEM TO HELP US!

TO THE TRAVELLING PUBLIC—

an appeal

THE WORKERS WHO GO-TO-IT need all available travelling space

between 7.0 a.m. - 9.0 a.m.
12.30 p.m. - 2.15 p.m.
4.30 p.m. - 6.30 p.m.

AVOID RUSH-HOUR TRAVEL

ISSUED BY THE WESTERN NATIONAL OMNIBUS COMPANY LIMITED THE SOUTHERN NATIONAL OMNIBUS COMPANY LIMITED

We cannot alter the seating capacity of our vehicles but some of You can adjust your times of travel to avoid the peak hours

A WORD FROM THE BUS DRIVER TO YOU!

People call out to me "Why don't you put more buses on"? "I have to stand all the way." "Something ought to be done about it." Now many of my driving pals are in the Forces, and a number of the Company's 'buses are away engaged on work of National Importance. The mechanical staff are having a rough time because many of their old chums are serving, too, so please don't wait until the last 'bus and chance getting home—travel early and be sure.

LINCOLNSHIRE ROAD CAR CO. LTD.
BRACEBRIDGE HEATH · LINCOLN

Representative "goodwill" newspaper advertisements of the railway-associated bus companies

XUM

Overseas Notes

Road Accidents in Argentina

Traffic accidents in the city of Buenos Aires accounted in the year 1940 for 219 persons killed and 492 seriously injured, according to the returns of the Police Department to the Ministry of the Interior. The number of traffic accidents recorded was 5,559, and, so far as could be ascertained, responsibility attached to the various classes of vehicles as follow :—Private cars, 1,931 ; trucks, 757 ; *colectivos*, 646 ; buses, 497 ; trams, 425. The number of fatalities is higher than for several years past, and orders have been issued strictly enforcing the regulations.

Jamaica Road Transport

The Jamaica Public Service Co. Ltd., British-owned, operates 22 miles of routes of tramway in and around Kingston. The gauge is 4 ft. 8½ in. Electric traction with trolley contact and 550-volts direct current is used. There are 43 electric passenger tramcars, 5 trailers, and 1 service car. In 1940, 5,385,221 passengers were carried. The total revenue amounted to £40,047, and operating expenses to £40,922. The employees number 281, all British, and the total annual wages amount to £26,764.

The Jamaica Government Railway does not operate regular road motor routes, but maintains a road collection and delivery service using 6 of its own lorries and 40 private vans in and around Kingston. General road transport traffic is in the hands of a large number of independent owners of one or two vehicles, carrying both freight and passengers between towns, all of which are adequately served.

South Perth Road Transport

The Western Australian Government has announced the purchase of the chassis for eight petrol-engined motorbuses to augment the tram service by providing a new route to South Perth. This area is served by a tramway which for the last two miles (approximately) is single line, with crossing loops, and the length of the journey has been the cause of considerable agitation by the residents for improved transport. The Government had intended to provide South Perth with a trolleybus service at a cost of about £100,000, but on account of the war it had been impossible to obtain the chassis from England. These new buses will seat 28 passengers each, in locally-built bodies. It is estimated that these vehicles will cost about £1,000 each on the road. The Minister for Railways has reiterated the opinion expressed by him previously that the only way of obtaining satisfaction would be to appoint a board to take control of all metropolitan passenger transport.

New Hankow and District Transport Services

A new and extensive road transport service has developed recently around Hankow, Wuchang, and Hanyang, triple cities on the Yangtze river in the Hupeh Province of China. Ocean-going steamers run up the Yangtze as far as Hankow, though it is probably 700 miles from the sea. These road services are run by the Wuhan Traffic Company, which in January inaugurated bus routes from Wuchang south-eastwards to Shihhweiyao, about 150 km., and Hankow to Yincheng north-westwards, about 80 km., and also a lorry service from Hankow to Chiangkiang, with connections to Yunmeng Aulu, Tsaoshih, Tienmen, Chungsiang, and Kiukowtsen. During February the same concern opened a 30-km. service from Hanyang to Tsaitien.

Public Service (New Jersey) Developments

The annual report of the Public Service Corporation of New Jersey and subsidiary companies for the year 1940 records that during the year new bus services were introduced between Hackensack and Hohokus township and between Paterson and Wayne township. A new train connection service for the Erie Railroad between the Rutherford station and Times Square, New York, was inaugurated, and the Newark City Subway was extended to serve better the new Andrew Jergens pharmaceutical plant and the Stephen Crane village, a large United States Housing Authority project. The Riverside & Fort Lee Ferry Company carried 3,137,899 vehicles in 1940, compared with 3,149,191 in the previous year. However, all daily records were surpassed on October 6, 1940, when 14,043 vehicles were carried.

Dublin Local Transit

In 1940 the Dublin United Transport Company's buses carried 130,000,000 passengers. The trams carried 25,000,000 passengers. The company cannot increase its services to meet demands because of difficulties in obtaining fuel supplies.

From January to June, 1941, in the city and suburbs of Dublin, 75,937,000 passengers were carried in buses a distance of 9,439,000 miles at a gross profit from their fares of £595,187. During the same period last year, according to statistics issued by the Department of Industry and Commerce, 60,609,000 passengers were carried 8,934,000 miles at a profit of £482,321.

Right : A twin-cylindered M.M.C. (Motor Manufacturing Company), vehicle made at Coventry in 1895, which is in the possession of Edward Irving, a motor engineer of Burrelton, Perthshire, and is claimed to be the first passenger carrying motorbus in Great Britain. The car has a removable body and was used both as a bus, seating nine persons in an open wagonette, and also as a goods lorry. The engine was originally regarded as of 4½ h.p. but would now be reckoned as about 20 h.p. It has tube ignition ; there are eight gears (four forward and four reverse); chain-driven wheels with solid rubber tyres ; and tiller steering. The vehicle, which can attain a speed of 20 m.p.h., was first used as a bus for service between Burrelton and Coupar Angus, and later in the Dundee district

CROSSING MANUFACTURE

By R. C. RATTRAY, B.A.,

Western District Engineer, Scottish Area, L.N.E.R.

EXPERIMENTAL work is at present being carried out in the Scottish Area of the L.N.E.R. with the object of facilitating the manufacture of crossing vees. Hitherto the point and splice rails have been machine-planed in the manufacturing of the vee, which is a comparatively slow operation. The possibility of substituting oxy-acetylene cutting for the more laborious planing was investigated, and original rough experiments were so encouraging that these have been extended.

Fig. 1—Crossing vee and splice rails formed by oxy-acetylene cutting

Although still to be considered in the experimental stage, the process has been developed, and a considerable number of crossing vees made in this manner are now in use, though only in sidings, where they stand up well under severe shunting conditions. For the most part they are made up from serviceable second hand rails. The illustration (Fig. 1) shows a point rail (A) and a splice rail (B) cut by the oxy-acetylene flame, ready for fitting together, and (C) a completed crossing vee. The sloping of the top surface at the end of the point rail is done with an electric grinding machine, and this is also used for any smoothing work necessary to the oxy-acetylene cut. Up to the present it has not been found necessary to anneal the cut rails with a view to normalising any alteration in the steel structure of the rail where the cutting has taken place. This aspect of the matter is not, however, being overlooked.

When the original experiments proved encouraging, methods were devised for dealing with the other steps necessary in the manufacture of the vee, and a simple plant was sent out in a convenient way to facilitate the fabrication from the original short pieces of serviceable rails to the finished article. The general arrangement of the shed is illustrated in Figs. 2 and 3. The rail is brought in by overhead runner, and heated in a gas furnace at the place the slight bend, or set, is required (A); whilst this is heating up, the other end is cut to the exact length by oxy-acetylene flame. When at the correct heat, the rail is passed to a form of apparatus, enabling the weight of the rail itself to put the required set in (B). It is then placed on the cooling rack (C).

After cooling, the rail is placed under a straight cutter shown at (D) in Fig. 3, and the necessary cuts are made. From here it is moved to a buffing table (E) where any necessary grinding is carried out, and where the drilling for bolts is dealt with by a small electrical drill. The point and splice rails are jointed together on a bank outside the shed.

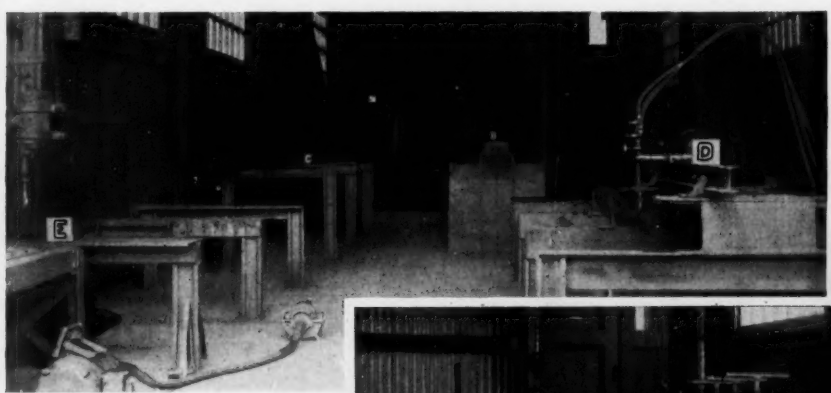


Fig. 2 (below): Gas furnace (A) for heating, and apparatus (B) for bending splice rails, cooling rack (C)

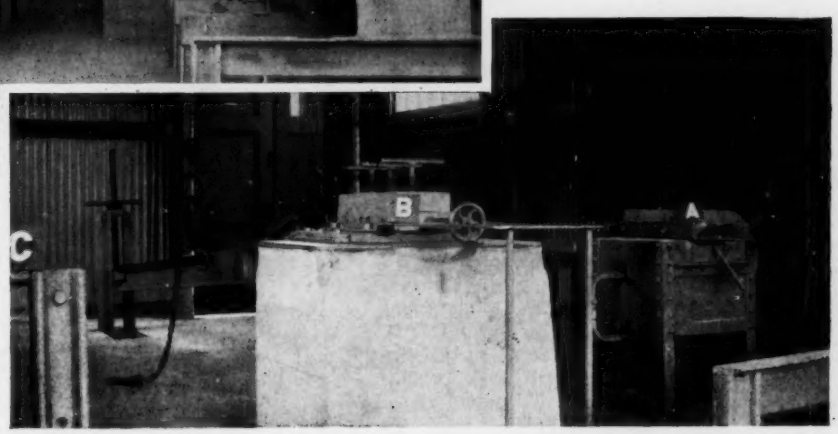


Fig. 3 (above): Straight cutter (D), and buffing table (E)

GENERAL ARRANGEMENT OF SHOP FOR MAKING CROSSING VEES BY OXY-ACETYLENE CUTTING

XUM

FRENCH NATIONAL RAILWAYS

Financial results of the former operating companies for the year 1940

ON January 1, 1938, the former railway systems of the Est, Nord, P.L.M., P. O., and Midi Companies, and the State and Alsace-Lorraine lines, were amalgamated into one common undertaking known as the Société Nationale des Chemins de fer Français (French National Railways Company). This company was formed under a decree dated August 31, 1937, to bring about the amalgamation, but stipulating that the old independent companies should continue to exist as financial entities until 1955, the year when their concessions, if averaged out, would have expired. These companies have been given 49 per cent. of the shares of the national company and distribute the dividends thereon to their own shareholders. On the dissolution of the companies in 1955 their holdings in the national company are to be distributed among the proprietors. The remaining 51 per cent. of the shares belong to the State which nominates fifteen members of the board or administrative council; 12 others are nominated by the companies, 4 more by the railwaymen, and 2 others are persons who have rendered eminent services to the railways. As from January 1, 1956, the 12 representatives of the companies will be replaced by 6 nominated by their shareholders, reducing the number of members of the board from 33 to 27. Since 1937 the French railway companies have carried on in the form of financial concerns without taking part in the operation of their former systems. The following are their financial results for 1940 :—

Nord.—Own receipts (proceeds from investments) 14,800,000 francs (15,300,000 in 1939); after deduction of overhead expenses the profit was 8,800,000 francs (8,300,000 in 1939), out of which a nominal sum of 50,094 francs was allocated to a special reserve for war damages. The trifling amount is the more striking as the Nord system sustained very heavy damages during the fighting in France. On the other hand it is the S.N.C.F. which is responsible for the reconstruction work and its cost. Including the State grant for dividend purposes, and including a special reserve fund of 1,600,000 francs, the amount available for distribution was 26,700,000 francs (26,300,000 in 1939); the dividend amounted to 70 francs each ordinary share and 54 francs each *action de jouissance* (both the same as for 1939). The company was unable to present the report of the Nord Belge, its system in Belgium.

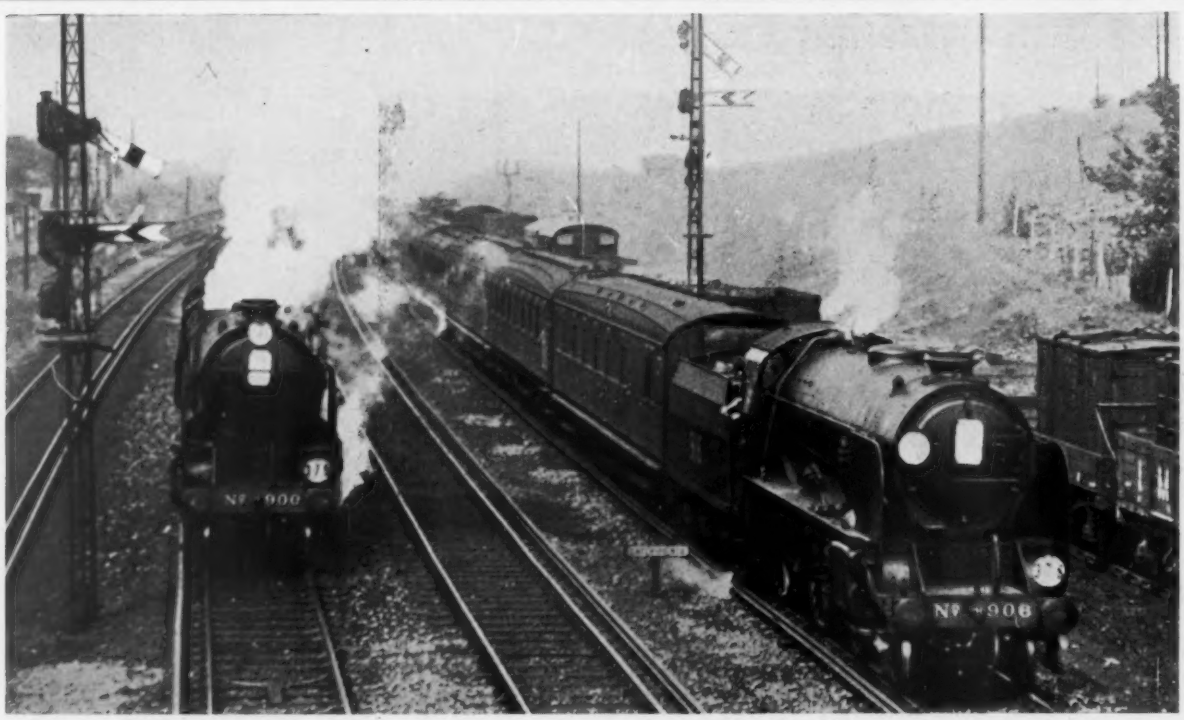
Est.—This company was granted about 13,000,000 francs in 1940 as dividend contribution from the S.N.C.F. After adding the proceeds (4,000,000 francs) of the company's own capital investments, 16,700,000 francs were available for distribution. The dividend paid amounted to 42 francs each ordinary share and 22 francs each *action de jouissance*. In connection with the French road-rail co-ordination scheme, the company surrendered in 1940 its Paris-Vincennes line.

Paris-Orléans.—Gross profits 1940 were 9,100,000 francs; after deduction of overhead expenses there remained a balance of about 5,000,000 francs. The dividend was 64 francs each ordinary share and 49 francs each *action de jouissance*.

Midi.—The 1940 profit was 1,300,000 francs (1,400,000 in 1939); the dividend (unchanged) was 55 francs each ordinary share, and 30 francs each *action de jouissance*.

P.L.M.—This company distributed about 48½ million francs for 1940, of which about 2,500,000 francs accounted for the profit balance. The dividend (unchanged) was 70 francs each ordinary share, and 50 francs each *action de jouissance*, with a bonus of 5 francs each share (9 francs in 1939). In September, 1940, the company's headquarters were re-transferred to Paris.

The railway companies maintain their headquarters for the non-occupied zone at Limoges, where the debt service relating to the unoccupied zone is dealt with. The dual headquarters have brought about not only accountancy complications but also a considerable increase of administration expenditure.



Coast expresses near Hither Green goods yard, Southern Railway. "Schools" class locomotives No. 900 "Eton," on Cannon Street—Hastings train, and No. 906 "Sherborne," on Charing Cross-Folkestone train [A.W.V. Mace

Photo]

THE ABYSSINIAN RAILWAY

GARE DE DJIBOUTI
PRIX DES BILLETS 1 ET 2

POUR	1re CLASSE		2e CLASSE	
	SIMPLE	AR	SIMPLE	AR
	Frs. C.	Frs. C.	Frs. C.	Frs. C.
ALISABIET	62 55	93 70	26 95	40 30
DAOUENLE	160 20	240 05	88 85	133 25
AICHA	220 50	330 50	122 55	183 60
DIREDAOUA	469 10	763 40	260 50	390 50
AOUACHE	826 40	1239 55	458 65	687 75
MODJO	1067 80	1601 20	592 40	888 35
ADDIS ABEBA	1182 30	1772 95	655 90	983 60

The Abyssinian Railway runs through 56 miles of French Somaliland territory to reach the coast at the port of Djibouti. In "The London Gazette" of July 22, the Secretary of State for Foreign Affairs gave notice that the whole of the territories formerly known as Italian East Africa are now areas in the occupation of his Majesty. Previously the British military authorities had informed the Governor in French Somaliland that his attitude to the British war effort must be defined speedily

Above: Train from Addis Ababa entering Djibouti station

Left: Table of first and second class fares at Djibouti station

Below (left): Scene in the booking hall of Djibouti station showing third class fare table on the wall

Below (right): Typical passengers at Djibouti

XUM

British Railways and the War—79

An L.N.E.R. signal box burned out during an air raid last September. The box was soon repaired and signal working was once more resumed

An L.N.E.R. tunnel in the London area received a direct hit during an air raid last September. In a very short time the debris had been cleared and trains were running again

A scene on one of the London Transport railways upon which it became necessary to suspend traffic while the ruins of a bombed building alongside the track were being demolished

RAILWAY NEWS SECTION

PERSONAL

Mr. Samuel James Hungerford, Chairman & President of the Canadian National Railways, has retired from the position of President, as briefly recorded in our August 1 issue. Mr. Hungerford was born near Bedford, Quebec, in July, 1872, and entered railway service in May, 1886, as an apprentice in the locomotive shops of the South Eastern Railway, now a part of the Canadian Pacific system. Between 1891 and 1910 he held various positions with the C.P.R. including those of Master Mechanic of the Western Division, at Calgary, and Superintendent of the large locomotive and other shops at Winnipeg. In 1910 he resigned from the C.P.R. to become Superintendent of Rolling Stock, Canadian Northern Railway, with headquarters first at Winnipeg, and later at Toronto. In 1917 Mr. Hungerford was appointed General Manager of Eastern Lines Canadian National Railways; in 1918 became Assistant Vice-President of Operation, Maintenance & Construction; and in 1920 was made Vice-President. When the C.N.R. absorbed the Grand Trunk Lines, Mr. Hungerford became Vice-President in charge of Operation, Maintenance & Construction in February, 1923, and held this position until the resignation of Sir Henry Thornton in 1932, when Mr. Hungerford was appointed Acting President. In the same year he was also elected President of the Central Vermont Railway, and was confirmed as President of the C.N.R. trustee board in 1934. This board was replaced by a directorate in 1936 and Mr. Hungerford then became Chairman as well as President. He was selected President of Trans-Canada Air Lines upon the formation of that organisation early in 1937, a position he is also now relinquishing. In June, 1937, he was awarded the honorary degree of Doctor of Mechanical Engineering by the University of Vermont, in recognition of his notable work in restoring the Central Vermont Railway after the floods in 1927. He was made an honorary member of the Engineering Institute of Canada in June, 1937.

Mr. S. J. Hungerford
Chairman, Canadian National Railways,
President, C.N.R., 1934-1941

Mr. R. C. Vaughan
Appointed President,
Canadian National Railways

Mr. Robert Charles Vaughan, who, as recorded in our August 1 issue, has been appointed President of the Canadian National Railways in succession to Mr. S. J. Hungerford, has spent the whole of his business career in railway service. Mr. Vaughan was born on December 1, 1883, in Toronto, and began his career as a messenger with the Canadian Pacific Railway at the age of 15. He later served with the Grand Trunk Railway and joined the Canadian Northern Railway in 1903. He held various positions with the company including that of Assistant to the Vice-President from 1910 to 1917, and Assistant to the President from 1917 to 1920, when he was appointed Vice-President of the Canadian National Railways. Upon the amalgamation of the Canadian National lines with those of the Grand Trunk Railway, he became Vice-President in charge of Purchases, Supplies & Stores of the newly co-ordinated Canadian National System. These duties were subsequently extended to include the Canadian National Steamships (West Indies) services. Mr. Vaughan brings to his new and responsible position a wide and varied knowledge of Canadian railway affairs.

XUM

Colonel A. W. Rendell

We regret to record the death on July 29 of Colonel Alan Wood Rendell, formerly of the East Indian Railway and the Westinghouse Brake & Signal Co. Ltd. Colonel Rendell was the third son of Captain John Rendell, R.N., and was born at Steyning, Sussex, in October, 1848, and educated at Steyning Grammar School and Sutton Valence School. In 1866 he became a premium pupil of John Chester Craven, Locomotive Superintendent of the London Brighton & South Coast Railway, at Brighton works. After two years in the shops Mr. Rendell was placed in charge of the drawing office. Shortly after this William Stroudley succeeded Craven, and he and Mr. Rendell quickly became great friends. During the time Mr. Rendell was in charge of the drawing office at Brighton, Stroudley developed most of his plans for the improvement and standardisation of the rolling stock, and the resultant productions became world-famous. Stroudley later placed him in charge of the repair and upkeep of the steamers used to maintain the Newhaven—Dieppe and Littlehampton—Honfleur services. In 1871 Mr. Rendell applied to Mr. A. M. Rendel, founder of the well-known firm of Messrs. Rendel, Palmer & Tritton, Consulting Engineers, Westminster, for service in India, and was appointed by him as an inspector of locomotives and other equipment for the Indian State Railways, in Manchester, Glasgow, and elsewhere. After two years of inspection experience, Mr. Rendell was nominated by Mr. A. M. Rendel for appointment as an Assistant Locomotive Superintendent on the East Indian Railway, and sailed for India at the end of 1873. He remained with the E.I.R. for his contract time of four years, and during that time was promoted to be District Locomotive Superintendent. As such he established the first training schools and examinations in India for Indian shunters and drivers, in 1875. In 1877 Mr. Rendell was offered and accepted the post of Chief Mechanical Engineer of the North-Eastern system of State Railways in Bengal, a system that included most of the older portions of the present Eastern Bengal Railway (both broad and metre-gauge), the Tirhoot State Railway in Behar (metre-gauge), the Patna-Gya Railway (broad-gauge), and other smaller sections of line. The headquarters of the system was at first Saidpur, on the Northern Bengal metre-gauge section, but was later transferred to Kanchrapara, near Calcutta, on the broad-gauge. One of his principal duties in this post was the organisation of the first river steam ferries running day and night on the Ganges, Brahmaputra, and Teesta rivers. He designed the special steamers and also the first large steel barges for these services, the latter with less than 9 in. light draught. The workshops at Saidpur and Dacca were designed and equipped by him, and those at Kanchrapara and Somastipur he enlarged and remodelled. He also designed the workshops of the Nizam's State Railway at Secunderabad. In 1890 Mr. Rendell resigned his appointment and accepted a similar one on the East Indian Railway with headquarters at Jamalpur. He was responsible for remodelling and enlarging the workshops there, making them the largest in India, and for designing and building in them the first Siemens-Martin acid steel-making plant in that country. This plant furnished castings of all kinds for the shops and also ingots for the rolling mills producing all classes of bars. Furthermore, he built the first locomotive and tender entirely manufactured in India. In 1901 he resigned his E.I.R. appointment to take up the general managership of the Westinghouse Brake & Signal Co. Ltd., with headquarters at King's Cross, London, where he remained until his retirement in 1922, though subsequently continuing to act in a consulting capacity to the firm. His activities were by no means confined only to his profession, and from the time he joined the 1st Sussex Volunteer Artillery Corps at Brighton in 1868 he was an ardent volunteer. When he went out to India he joined the E.I.R. Volunteers as a Lieutenant in 1874, and three years later raised the Northern Bengal Rifle Corps and was appointed Commandant. On rejoining the E.I.R. Volunteer Rifles in 1890 he was made Colonel-Commandant of that unit, and in 1895 he raised subscriptions to purchase a Maxim gun, and formed a Maxim gun detachment, which, in 1900, was sent to the South African war—under the command of Colonel Lumsden of Lumsden's Horse—for the relief of Ladysmith. From 1896 to 1901 Colonel Rendell was Honorary A.D.C. to H.E. the Viceroy of India. In the latter year he retired from the command with the rank of Colonel. During the 1914-1919 war, as General Manager of the Westinghouse Brake & Signal Company, he had charge of the manufacture of munitions of all kinds. He was a Freeman of the City of London (1871); Liveryman of the Grocers' Company (1899); Member of the Institution of Civil Engineers from 1888; Member of the Institution of Mechanical Engineers; Member of the Iron & Steel Institute; Member of the Institute of Transport; Fellow of the Royal Society of Arts; and Chairman of the Bench and Municipality of Jamalpur (India). In 1922 Colonel Rendell was awarded a Telford Premium for his paper read before the Institution of Civil Engineers, entitled "Control of Trains in Relation to Increased Weight and Speed Combined with Reduced Headway." As a further instance of his versatility, if may be mentioned that he translated a Natural History entitled "Physiologus," written in Latin in the 12th century and printed in black letter type in Cologne.

The late Colonel A. W. Rendell

Formerly Chief Mechanical Engineer, East Indian Railway, General Manager, Westinghouse Brake & Signal Co. Ltd., 1901-1922

Road Haulage (Operations) Advisory Committee

The Minister of War Transport has set up a committee with the above title to advise him on the operation and development of the Government road haulage scheme. He has appointed Major G. A. Renwick to be Chairman of the committee and the following to be members: Messrs. I. Barrie, W. J. Elliott, C. Holdsworth, J. S. Nicholl, C.B.E., G. Smart, M.B.E., R. W. Sewill, and J. H. Turner, O.B.E. Mr. A. H. Lomas of the Ministry of War Transport has been appointed Secretary of the committee.

Lord Leathers, the Minister of War Transport, has appointed Mr. F. H. Keenlyside to be his Private Secretary, and Mr. D. C. Haselgrove and Miss D. E. Gibbs to be his Assistant Private Secretaries.

MR. GILBERT S. SZLUMPER

The President of the Board of Trade stated in the House of Commons on August 5 that Mr. Gilbert S. Szlumper has been asked to give his whole time to co-ordinate all needed efforts of transport, whether by rail, sea, or canal.

The Home Secretary has announced the appointment of the following additional Deputy Regional Commissioners:—

General Sir John Brind, North-Eastern Region; Mr. G. Dennison, Midland; Mr. F. Hindle, North-Western; Mr. C. R. Keene, North Midland; Mr. H. M. Medland, South-Western; Colonel C. J. Pickering, Northern; Mr. H. W. Shawcross, K.C., South-Eastern.

Steps are being taken to make appointments for the Eastern, Southern, and Welsh regions. The appointment of a Deputy Regional Commissioner in London is under consideration.

Mr. J. W. Leigh, Secretary of the South African Railways & Harbours Service Commission, has retired after more than 46 years of service. Mr. Leigh entered the service of the Cape Government Railways in February, 1895, in the Traffic Manager's office at Cape Town. He went to Johannesburg in 1918 to join the General Manager's office staff and in time became Staff Assistant. Mr. Leigh was also General Secretary of the Sick Fund. When the South African Railways & Harbours Service Commission's office was established in January, 1935, Mr. Leigh became Secretary.

Sir Harry Brown, Chairman of the British General Electric Company Proprietary Limited, has been appointed Director of the War Organisation of Industry in Australia. He will continue to act as Co-ordinator of Public Works under the direction of the Loan Council.

Mr. Frederick G. Bristow, General Secretary of the Commercial Motor Users' Association, has been elected Chairman of the National Executive Committee of the Royal Society for the Prevention of Accidents, in succession to the late Sir Allan Hume Nicholl.

The L.N.E.R. announces that Mr. W. Y. Sandeman, M.C., B.Sc., Assistant Engineer of the Southern Area, has been appointed Engineer, Scottish Area, in succession to Mr. J. C. L. Train who, as recorded in our July 4 issue, has been appointed Engineer, Southern Area.

Mr. J. Green, formerly Assistant Traffic Superintendent of the North Western Road Car Co. Ltd., has been appointed Traffic Superintendent, and Mr. W. Leese, of the traffic office staff, has been appointed Assistant Traffic Superintendent.

At the conference of the National Union of Railwaymen at Swansea, on July 18, Mr. F. J. Burrows (Ross) was elected President for 1942.

Mr. H. N. Tuff, Chief Engineer of the North Western Road Car Co. Ltd., has been appointed Chief Engineer of the United Automobile Services Limited. He is succeeded by Mr. C. J. Brown, Chief Engineer of the Hants & Dorset Motor Services Limited.

Mr. F. G. Millen, Assistant Treasurer, Canadian Pacific Railway Company, Montreal, has retired after more than 50 years of service with the company. Mr. Millen's duties are being taken over by Mr. A. E. H. Chesley, and Mr. Chesley's post is being filled by Mr. T. H. Moffitt.

THE MELCHETT MEDALLIST FOR 1941

At a recent meeting of the council of the Institute of Fuel, it was unanimously decided to award the Melchett Medal for 1941 to Dr. Clarence A. Seyler, D.Sc., of Swansea, as some recognition of the research work on coal and its constitution that he has carried out and published for the benefit of the world at large over a period of many years. It is hoped to present Dr. Seyler with the Melchett Medal in October next when he will give the Melchett Lecture.

Mr. Frank S. Fowler, Director of Accounts, Interstate Commerce Commission, since 1937, retired in May.

We regret to record the death on June 19 in New York of Mr. John E. Muhlfeld, after a short illness. Mr. Muhlfeld was born in Peru, Ind., on September 18, 1872, and entered the railway service after attending the Purdue University School of Mechanical Engineering. After holding various railway appointments, Mr. Muhlfeld in 1910 set up as a consulting engineer in New York, and was engaged from time to time by many important American railways and by the Canadian Government. He travelled extensively in Europe, and took part in the development of the experimental high-pressure freight locomotives of the Delaware & Hudson Railroad. He was the author of "The Railroad Problem and Its Solution," as well as of numerous technical papers.

We regret to record the death on May 20 of Mr. W. H. Burns, Vice-President & General Auditor, Chicago, Rock Island & Pacific Railroad, since 1922.

Mr. George A. Kirley, Chief Engineer, Boston & Albany Railroad, has been appointed General Manager, in succession to Mr. James L. Truden, retired.

Staff & Labour Matters

Government Policy on Prices and Wages

The policy of the Government as to further increases of wage rates is indicated in a White Paper published on July 22 entitled "Statement by H.M. Government on Price Stabilization and Industrial Policy" (Cmd. 6294, Stationery Office, 1d.). The statement explains the necessity for reduction in the civilian consumption of goods and points out that increases in wages or other income would not raise the general standard of living; they would merely tend to send up prices and denude the shops, and that the beginning of the vicious spiral of inflation is found in increased prices.

It is regarded as the duty of both sides in industry to consider together all possible means of preventing the rise of costs of production and so to obviate rise of prices which is the initial step in the inflationary process. The use of the experience and knowledge of workpeople is not less necessary than the application of managerial training and experience, and the maintenance of wages and employers' remuneration at a reasonable level should be achieved as far as possible by improvement in the efficiency of production by the joint efforts of employers and workpeople. At the same time there may, consistently with these considerations, be proper grounds for adjustment of wages in certain cases, particularly among comparatively low-paid grades and categories of workers, or for adjustment owing to changes in the form, method, or volume of production.

The policy of the Government is to avoid modification of the machinery for wage negotiations and to continue to leave the various voluntary organisations and wage tribunals free to reach their decisions in accordance with their estimate of the relevant facts. These will no doubt pay due attention to cases where there are special grounds for adjustment such as those referred to above.

If there were to be further increases in the cost of living this would need to be taken properly into account; but it is the object of the policy of price stabilisation to prevent such increases from arising, or at least to keep them within small dimensions, and the success of this policy will be dependent on the extent to which it achieves this object. It will therefore be necessary to bear in mind, particularly when dealing with general wage applications, that the policy of price stabilisation will be made impossible and increases of wage rates will defeat their own object unless such increases are regulated in a manner that makes it possible to keep prices and inflationary tendencies under control.

[The subject of the White Paper is discussed in an editorial note at page 126.—ED., *R.G.*]

XUM

TRANSPORT SERVICES AND THE WAR—101

August Bank Holiday traffic—Duplication and augmentation of week-end passenger services—Further curtailments in Eire—War and the Far East

Notwithstanding exhortations by the railway companies and by the Ministry of War Transport to abstain from all unnecessary travel, passenger movements last week-end were relatively heavy. Newspaper advertisements issued by the Ministry of War Transport containing appeals to the public

MONDAY
AUGUST 4
IF you're taking the day off on August Bank Holiday, either 'stay put' or go where your own legs will carry you. Don't create 'holiday traffic' problems. Don't impede the vital goods traffic. Don't expect special facilities. Don't waste petrol. Have a really good rest. You'll feel all the better for it.
PLEASE
AVOID
TRAVELLING
THIS
BANK HOLIDAY
WEEK-END
Issued by the Ministry of War Transport
HOLIDAY TIP
GOODS traffic in these days is far more important than passenger traffic. Don't hinder the War effort and add to the strain on the already overburdened railway and road services. Don't expect special passenger facilities this August Bank Holiday; if you are taking a brief rest stay close to your home and enjoy a quiet holiday. You will feel the benefit, and so will transport.
PLEASE
AVOID
TRAVELLING
THIS
BANK HOLIDAY
WEEK-END
Issued by the Ministry of War Transport

to avoid all unnecessary travel are reproduced herewith. The movement of holidaymakers by train, which was no doubt augmented by the stringent restrictions upon the supply of petrol to private motorists, was superimposed upon a considerable amount of additional traffic which has been moving recently, and to which reference is made at page 125.

To avoid congestion of railway traffic, the Army authorities banned leave from August 1 to 4 inclusive, for all soldiers on home service.

The Minister of War Transport announced on July 29, that the movement of freight traffic would continue throughout the holiday without interruption.

Week-End Traffic from Paddington

Traffic from Paddington, particularly to the West of England, on recent Saturdays has become so heavy that it has been necessary to run practically every train in several portions, and the 10.30 a.m. from Paddington to Penzance has had to be run in five parts for some weeks now to Cornwall, Devon, and Somerset, and even then all portions of the train—together with other West of England services—have left London with passengers standing. This abnormally heavy travel undoubtedly has been created by the fact that in the West there is a very large number of evacuated persons—children, members of business firms, and others, in addition to which the fact that some of the seaside resorts on the east and south-east coasts are now prohibited areas, has forced those who formerly visited these areas to find alternative resorts in the West of England.

In order, therefore, satisfactorily to deal with these for the next few Saturdays, during the height of the holiday movement, it has been decided to augment the existing service by the running of additional special trains to the West from Paddington, as under:—

9.35 a.m. ...	... For Westbury and the Weymouth Line, Taunton, Minehead, and
2. 15 p.m. ...	... Ilfracombe.
12 noon ...	... For Torquay, Paignton and Dartmouth.
3.30 p.m. ...	... For Westbury and the Weymouth line, Taunton, Exeter, Dawlish, Teignmouth, Newton Abbot, Torquay and Paignton, Kingsbridge and Plymouth.

Some indication of heavy loading of trains from Paddington, which has resulted in the necessity for running the trains in several parts, may be gauged from the following statistics relating to passenger travel recently. In some cases it has been found possible to spread the traffic more conveniently by running additional trains rather than by duplication of existing trains, and special reference to the advantages of this method was made in an editorial article in THE RAILWAY GAZETTE last week (page 103).

	Number of Passengers
9.35 a.m. (additional train) Paddington to Taunton and Minehead ...	346
10. 30 a.m. Paddington	
1st part for Penzance	743
2nd ,, Penzance	1,089
3rd ,, Paignton	1,000
4th ,, Exeter and Kingswear	800
5th ,, Newton Abbot	890
10.35 a.m. Paddington	
1st part for Bristol	276
2nd ,, Penzance	1,000
12 noon (additional train) Paddington to Kingswear	500
2.15 p.m. (additional train) Paddington to Minehead	581
3.30 p.m. (additional train) Paddington to Plymouth	233

Further Train Services Reductions in Eire

A fortnight after the emergency timetables of the Great Southern Railways of Ireland, mentioned in last week's issue, another emergency timetable book has appeared, dated July 28, and containing even more drastic reductions. The 7 a.m. down mail from Kingsbridge to Cork is withdrawn and replaced by an all stations train at 7 a.m. to Thurles; the 9.30 a.m. started at 8 a.m., and becomes the first train of the day to Cork, taking 5 hr. In the up direction the 7.45 a.m. from Cork starts at 9 a.m., and is further slowed to 5 hr. 35 min., calling almost everywhere. The 4.5 p.m. up mail starts at 5.40 p.m., and with a time of 4 hr. 5 min. for the 161½ miles to Dublin, including 63 min. for the 51 miles from Maryborough to Kingsbridge, is the only express remaining over this route. Serious further cuts are made throughout the old Great Southern & Western branches, most of those which had already been reduced to three trains in each direction daily having a further reduction to two.

Summer Train Services in Holland

The summer timetable of the Netherlands Railways shows a further reduction in passenger trains on the steam-operated lines, where the service is now from 10 to 30 per cent. of the pre-war frequency. On the electric lines a 50 per cent. reduced service is maintained. Connections at interchange stations are not planned, delays are frequent, and, in order to make the best use of the available rolling stock, train services are scheduled for every line separately. Branch lines which were closed have in some cases been reopened, and in addition 49 stations which were closed when the standardised timetables were introduced have been reopened also. This measure has been taken as a result of the suspension of almost all passenger road services. Train speeds remain low, and the feature of the pre-war timetables allowing a return journey between any two stations on the system to be made in a day, with several hours to spare at the destination, now applies only to short distances. The international services have been extended slightly. The daily Hague-Berlin train now has a section from Amsterdam; a new pair of trains is run between the Hague and Vienna, *via* Utrecht, Emmerich, and Cologne;

XUM

and another pair with limited accommodation for civilians runs between the Hague and South Germany, *via* Venlo and Cologne. One Paris-Amsterdam train and an additional one between Brussels and Amsterdam are run on the ordinary pre-war route. All these trains, including the Belgian and French trains, are " D " trains with supplementary charges. Dining and sleeping cars on all these trains are operated by the German Mitropa company. Three semi-fast trains run to Cologne, two from Arnhem, *via* Emmerich, and one from Nymegen, *via* Cleves, connecting with the electric services from Amsterdam, the Hague, and Rotterdam.

Transport Conditions in Holland

The following extract is from a letter written by a Dutch citizen who was recently able to visit his own country:—

" Coming down to The Hague, I was disagreeably surprised by my impression that it was a German station, thanks to the new system of loud speakers shouting their explanations, always in the two languages and always concerning the delays of trains. The trains, like the rest, have not been improved by the change of government, and the engines which used to shine so brightly seemed tarnished and old. You have to forget the legendary punctuality of the timetables and how we used to frown at half-a-minute of delay. In the station hall, posters with vivid colours tried to persuade me that Mussert (Dutch Nazi leader) is a great man, that the English airmen have no pity, and that my chief duty is to contribute to the Winter Help."

The Belgian Railways in 1940

The year 1940 naturally involved the Société Nationale des Chemins de per Belges in heavy losses. During the period from January 1 to May 9, military and industrial traffic for defence purposes increased to such an extent that the passenger traffic had to be curtailed by 30 per cent., but the company was nevertheless able to secure a profit of 14,000,000 Belgian francs in that period. From May 10 to the end of July, 1940, traffic over the whole system was at a standstill. The war caused very heavy and extensive damage; total destruction or damage that was almost equivalent to total loss comprised 60 km. (37¼ miles) of main line, 16 km. (10 miles) of secondary line, 292 railway bridges, 597 buildings (of which 81 were totally destroyed), 10 tunnels, 60 road bridges over the line, 411 signal boxes, 40 pumping plants, six turntables, and the entire telephone system. At the end of 1940 all damage was stated to have been made good, in either a permanent or a temporary way, with the exception of the damage to a few short branch lines totalling 118 km. (73 miles). Reconstruction work was carried out on Government account, but it has not yet been possible to establish a precise valuation of the damage. Provisional estimates are as follow: plant about 400,000,000 Belgian francs, rolling stock about 55,000,000 Belgian francs. Including material not accounted for by April 1, 1941, and which is regarded to be a total loss, the aggregate loss is said to run into the neighbourhood of 2,000,000,000 Belgian francs.

The working loss up to July 31, 1940, amounted to 285,000,000 Belgian francs. Traffic was gradually resumed from August 1, 1940, and by December 31 passenger traffic had reached 38 per cent., and goods traffic 40 per cent. of the volume obtaining in the corresponding period of the preceding year. Despite these low percentages, the total receipts reached 56 per cent. of the level attained in the same months of 1939. Part of the gross receipts had to be handed over to the Germans as war contribution, namely, 4,300,000 Belgian francs for the period ended August 31 and 25,000,000 Belgian francs for each of the remaining four months of the year, a total of 104,300,000 Belgian francs. Up to December 31, 1940, the Ministry of Finance granted the company advances aggregating 790,000,000 Belgian francs, free of interest, to enable the company to cover its working losses. The problems of the repayment of these grants, of the compensation for the contribution paid to the enemy, and of the compensation for transport carried out on Government account, will be left for settlement until after the war. The greatest working loss was incurred into during the period May 10 to July 31, 1940, when the whole ordinary railway traffic was suspended, and receipts were practically nil, while the personnel had to be assisted financially. Even during the months when the traffic was being resumed gradually, the losses continued to be considerable. The working loss, inclusive of financial charges, totalled 774,000,000 Belgian francs (against a working loss of 68,000,000 Belgian francs in the previous financial year), and included 200,000,000 Belgian francs for military transport carried free, and the above-mentioned contributions to the enemy (104,300,000 Belgian francs). To the actual loss must be added the loss (819,000,000 Belgian francs) carried over from previous financial years. The company's own capital is stated to be 1,100,000,000 Belgian francs.

The Abyssinia Railway

South African engineers have repaired the bridge at Awash, on the railway from Addis Ababa to Djibouti, which was damaged by the retreating Italians, and through traffic has been established between Addis Ababa and Diredawa, according to a message dated July 25. (*See illustrations on p.* 141).

Japanese Troop Movements Restrict Railway Services

Messages from the Far East indicate that almost all non-military railway traffic in Japan, Manchukuo, and Northern China has been stopped as the result of large-scale mobilisation. In particular, through traffic between North China, Manchukuo, Chosen, and Japan is limited to one night train each way, all the expresses and sleeping accommodation having been cancelled.

The Railways of Free China

Though so many of its railways in eastern and northern China have been seized by the Japanese, the railways remaining in the hands of, or subsequently built by, the Chinese Government in Chungking are of considerable strategic value, despite the fact that none serves any ocean port through which munitions can be imported. These lines may be divided into four groups: (1) the section of the Lung-Hai Railway between Chengchow—former junction with the Peking-Hankow line—and Paochi, west of Siam; (2) the Chekiang-Kiangsi Railway, a considerable portion of which has not been dismantled and is still functioning; (3) the group of lines centred upon Hengchow, comprising the section of the Canton-Hankow Railway between Changsha in the north to Shaokwan (Shiuchow) in the south, the Hunan-Kwangsi Railway from Hengchow *via* Kweilin to Linchow, and the extension thence towards Kweiyang, known as the Kwangsi-Keichow Railway; and (4) the lines around Kunming in Yunnan. Other railways are being built by the Chungking Government, notably in Szechwan.

At present these four groups are completely isolated from one another, but each is playing an important role in the internal communications of Free China, and is enabling a great saving to be effected in that scarce and costly fuel, petrol, and in lorry mileage. Group (1) provides transport for munitions from Russia arriving at Paochi or Sian by road from the Soviet Turksib Railway via Sinkiang. It also serves a lively front along the Yellow river. Group (2) enables touch to be kept with the east coast around Ningpo and Hangchow, though much of this line has had to be dismantled to prevent its falling into Japanese hands. Group (3) serves as lines of communication between central, south-eastern, and south-western China, and, as described in our Overseas columns this week, has become the dumping ground for rolling stock and other equipment that has been salvaged in the face of the advancing Japanese all over northern and eastern China. Group (4) is still in its infancy, but is likely to prove the most valuable of all if the Japanese continue to blockade the whole of the coastline of China for a few more years, as it will provide a link with the outside world *via* Burma, and will also link up with the north-west *via* Chengtu and Lauchow, enabling munitions to flow freely into western China.

Halfpenny Air Raid Excursions by Rail

In connection with the frequent and severe bombing by the Japanese air force to which Kunming, capital of Yunnan, has been subjected, *The Sunday Express* learns that the State Railways have been advertising " air raid excursions." For less than ½d. city dwellers are taken out into the surrounding country, where they scatter until the raid is over.

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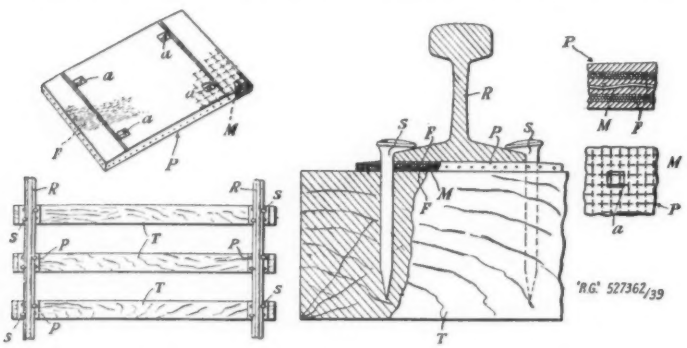
ABSTRACTS OF RECENT PATENTS*

No. 527,362. Tie Plate

Theodore Winthrop Stedman, of 47, East 61st Street, New York, United States of America. (*Application date: April 4, 1939.*)

A tie plate P consists of a member formed from rubber-like material having preformed openings *a* for receiving the spikes S which secure the rails R to the sleepers T. The openings *a* have a smaller cross section than the spikes S so that the latter are gripped by the tie plates P when in position. In order to increase the compressional resistance and the tensile strength resistant to spreading of the tie plates, these may be

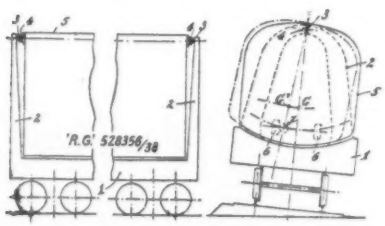


reinforced by metallic mesh plates M. In addition to or in lieu of these reinforcements M, fabric or cord reinforcement may also be provided.—(*Accepted October 8, 1940.*)

No. 528,356. Railway Vehicles

Jean Bugatti, of Molsheim, Bas-Rhin Department, France. (*Convention date: May 9, 1938.*)

In order to obviate the effects of centrifugal force, and to attenuate the effects of high velocities in curves on passengers, a railway vehicle is elastically and pivotally suspended, pendulum

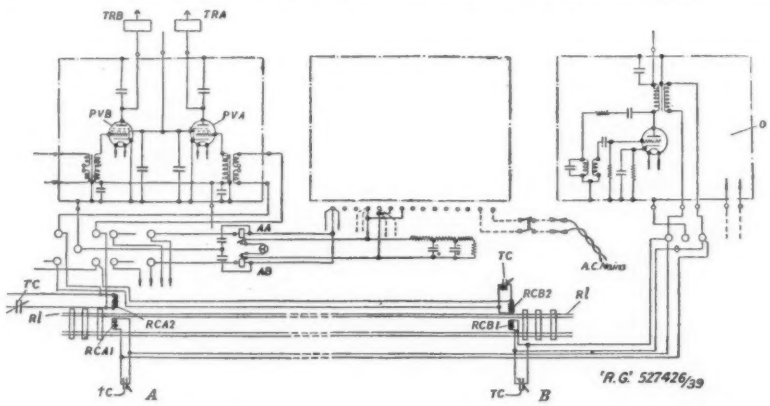


fashion, on an under carriage for rocking movement about an axis parallel to the longitudinal axis of the vehicle. To this end the chassis 1 is provided with uprights 2 fitted with trunnions or journals 3 on which are engaged housings 4 acting as sleeves, rigid with the vehicle body 5. On a curve the body 5 turns so that its centre of gravity moves from G to G¹. Projections 6, integral with the uprights 2 of the chassis 1, restrict oscillation of the vehicle body 5 by abutting against a stop 7 secured to the body. Special joints for the trunnions 3, and shock absorbers are included in the detailed construction of the vehicle.—(*Accepted October 28, 1940.*)

No. 527,426. Axle Counting

Standard Telephones & Cables Limited, Roy Mayne Barnard, William Frank Glover, and Andrew Brown, all of Connaught House, 63, Aldwych, London, W.C.2. (*Application date: March 3, 1939.*)

Railway signalling equipment for detecting the passage of individual wheels of rolling stock includes two coils RCA1 and RCA2 placed on either side of the rail Rl at the signalling point A. The coil RCA1 is energised by a 5-kilocycle oscillator O, some of this energy being picked up by the other coil RCA2 and passed through matching devices to the grid of a high slope

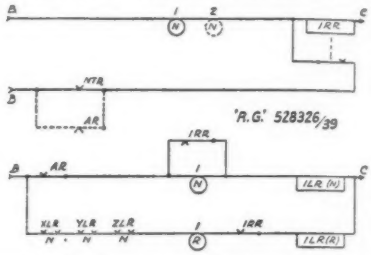


pentrode valve PVA. When a wheel passes between the two coils a reduction in pick-up is experienced. Relay TRA is normally energised over the anode circuit of valve PVA and is released as a wheel passes as described, thus registering the passing wheels in similar fashion to a mechanical treadle. A tuning condenser is used to tune the coils RCA to resonance frequency. At a point B a similar arrangement is also arranged, so that a complete signalling unit is obtained for the section A-B.—(*Accepted October 9, 1940.*)

No. 528,326. Traffic Controlling

Westinghouse Brake & Signal Co. Ltd., and Charles Francis Dickson Venning, all of 82, York Way, King's Cross, London, N.1. (*Application date: April 25, 1939.*)

Railway traffic controlling apparatus of the type comprising route setting



and/or locking relays which are arranged to be energised when a route is set includes a route-supervising relay 1RR which is adapted to be controlled in accordance with track conditions at a suitable point in the route and to effect the restoration to normal of the route-locking relay and/or the display of a corresponding visible indication. The setting up of a route, for example, Route No. 1, is controlled by energisation of the "reverse" winding 1LR (R) of the associated setting and locking relay 1LR which is such that when once in the reverse position it will retain this position until the normal winding 1LR (N) is energised. This relay has contacts open in its "reverse" position included in the "reverse" energising circuits of each route relay for routes conflicting with the route set up by this relay, while similar interlocking contacts XLR (N), YLR (N), ZLR (N) of each of these route relays are included in the circuit of the reverse winding 1LR (R). In addition, the reverse energising circuits of the route relay includes a "reverse" contact 1 (R) of the route-control switch of route No. 1 and a front contact of the route-super-

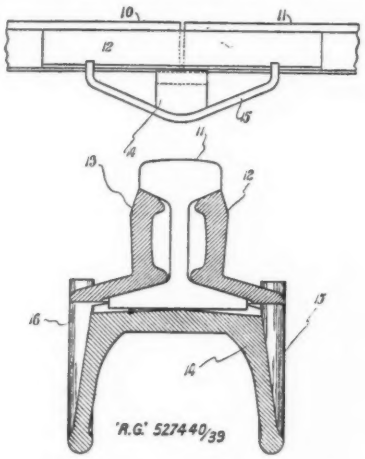
* These abridgments of recently published specifications are specially compiled for THE RAILWAY GAZETTE by permission of the Controller of His Majesty's Stationery Office. Group abridgments can be obtained from the Patent Office, 25, Southampton Buildings, London, W.C.2, either sheet by sheet as issued, on payment of a subscription of 5s. a group volume, or in bound volumes, price 2s. each, and the full specifications can be obtained from the same address price 1s. each.

vising relay 1RR. The circuit of the winding 1LR (N) includes a front contact of an approach-locking relay AR, and, in parallel with each other, a normal contact 1 (N) of the route-control switch, and a back contact of the relay 1RR. This latter relay has a pick-up circuit through contact 1 (N), 2 (N), etc., of each route-control switch, and a stick circuit including a front contact of a relay NTR controlled by a suitable track circuit in the route or routes associated with relay 1RR. In parallel with contact NTR is a back contact of an approach-locking relay AR for the common entrance of all the routes associated with relay 1RR.—(*Accepted October* 28, 1940.)

No. 527,440. Rail Joint

Walter Watts, of 100, *Helena Street, Guildford, Western Australia.* (*Application date*: *April* 12, 1939.)

Two adjacent rails 10 and 11 have fish plates 12 and 13. Supporting the rail joint on the underside is a one-piece sole-plate 14 in the form of an inverted U-shaped section in the plane of the rail cross-section. Connected to the lower edges of the sole-plate 14 are bent trust members 15 and 16, the ends of which extend upwardly and may be welded

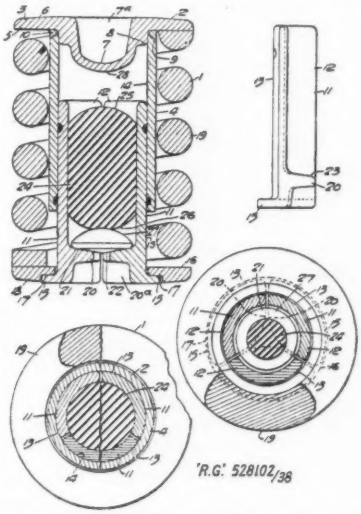


in recesses formed in the fish-plates 12 and 13. The truss members 15 and 16 are connected to the fish plates in any of a number of suitable ways, such as by welding. In fact the fish plates 12 and 13 could be dispensed with, the ends of the truss members being welded directly to the rails in this case.—(*Accepted October* 9, 1940.)

No. 528,102. Snubbers

The Symington-Gould Corporation, of 20, *Symington Place, Rochester, New York, Assignees of Emil Herman Blattner, of Box* 993, *Rochester, New York, United States of America.* (*Convention date*: *June* 23, 1938.)

A snubber, or friction cushioning unit 1 for assisting the support of truck bolsters, consists of a barrel 2 with an end plate 3 and a tubular member 4.



Extending radially of the unit is a flange 5 of the plate 3, and this flange has a convex outer bearing surface 6, which enables the unit to rock during service. Projecting from the end plate 3 is a protuberance 7 in which a recess 7*a* is formed to receive positioning means, and a shoulder 8 fits the tubular member 4. The extremity 9 of the tube 4 is scarfed for welding 10. Inside the tubular member 4 are shoes 11, each comprising a stem 12 with an outer cylindrical surface 13 engaging the inner surface 14 of the tubular member 4, and a flange 15. The flanges 15 engage a seat 17 in a ring 16 which has a lower convex surface 18 to permit rocking. Between the flange 5 and the ring 16, and around the tubular member 4 is a spiral spring 19. Extending inwardly from each shoe stem 12 is a web 20, which has a bearing surface 23 against the lower inclined surface 22 of a block 21. In the assembled position there is a recess 21*a* to receive positioning means. The upper surface 27 of block 21 bears against the lower surface 26 of a resilient cylindrical member 24 which may be formed of rubber. It will be readily seen that the first stages of compression involve the compression of spring 19 only. However, when the upper surface 25 of the resilient member 24 engages the lower surface 28 of the protuberance 7, compression of the resilient member occurs also, so that greater resistance to compression occurs in the later stages.—(*Accepted October* 22, 1940.)

COMPLETE SPECIFICATIONS ACCEPTED

527,362. Stedman, T. W. Tie-plate arrangement for railroads.

527,385. Ohio Brass Company. Current collector for electric vehicles.

527,386. Ohio Brass Company. Current collector for electric vehicles.

527,426. Standard Telephones & Cables Limited, Barnard, R. M., Glover, W. F., and Brown, A. Axle counting in railway signalling.

527,440. Watts, W. Railway rail-joint.

527,541. Budd International Corporation. Joint constructions for vehicle bodies.

527,542. Budd International Corporation. Partitions for vehicle bodies.

527,623. Williams, T. D. Spring-loaded piston-rings for steam engines.

527,721. Hall Limited, J. & E., and Pernet, F. H. Escalators.

527,733. Szalay, F. Current collectors for trolly buses and other electric vehicles supplied from overhead wires.

527,916. Miag Muhlenbau und Industrie A.-G. Arrangements for emptying motor lorries, railway wagons, and like vehicles.

527,997. Mond Nickel Co. Ltd. Steam boilers and other vessels subjected to high pressure.

528,102. Symington-Gould Corporation. Friction units or snubbers particularly for railway trucks.

528,161. Tecalemit Limited. Device for the transport of vehicles, particularly in service stations

528,230. Triggs, W. W. (Kupferwerk Ilsenburg A.-G.). Fire boxes for locomotives.

528,326. Westinghouse Brake & Signal Co. Ltd. and Venning, C. F. D. Railway traffic controlling-apparatus.

528,356. Bugatti, J. Railway vehicles.

CHINA-MANCHUKUO-CHOSEN TRAINS WITHDRAWN.—After the withdrawal of the crack Peiping-Fusan express in mid-July — when it was hinted that Japanese military movements were the reason—a second train was taken off the same run on July 21. According to railway sources in Peiping, five further trains are likely to be withdrawn shortly, and sleeping cars may be abolished on the remaining night trains to double their capacity. While no official reason is given, the conclusion to be drawn is obvious, especially as it is hinted that Japanese forces withdrawn from the Chinese interior are being moved to Inner Mongolia or Manchuria.

KULASEKHARAPATNAM LIGHT RAILWAY.—We learn from Parry & Co. Ltd., Managing Agent of the East India Distilleries & Sugar Factories Limited, that the 26·75-mile Kulasekharapatnam Light Railway, property of the firm, is no longer in service and has been dismantled. This little line was equipped with three diesel and three petrol locomotives, 23 passenger, and 45 goods vehicles, as well as a light petrol motor trolley and a brake van.

JUBILEE OF THROUGH TICKETS IN SWEDEN.—Not until 1891 were through passenger tickets issued in Sweden. Before that passengers invariably had to re-book when changing from one railway to another, a great inconvenience. Through tickets were then introduced between a few lines for journeys where there was an appreciable traffic, but blank paper tickets were at first used and were not popular with the railway staffs, as they led to an increase of work; the public welcomed them, however, and a marked growth in traffic soon resulted.

XUM

Questions in Parliament

Petrol Depots on Arterial Roads

Captain J. D. Profumo (Kettering—C.), on July 16, asked the Parliamentary Secretary to the Ministry of War Transport whether, in view of the shortage of petrol, as well as the necessity for speeding up delivery, distribution, and transport of so many important commodities, he would consider establishing common depots at various points on our main arterial routes at which vehicles of all types could call in order to reload, so that the return journey could be fully used.

Colonel J. J. Llewellin replied that even if it were possible to give effect to it, he was by no means sure that Captain Profumo's suggestion would have the results which he expected.

Meals for Road Transport Drivers

Captain W. F. Strickland (Coventry—C.), on July 16, asked the Parliamentary Secretary to the Ministry of Food whether he was aware that road transport drivers were frequently unable to obtain suitable meals at roadside eating houses intended specially for their use in consequence of the available supplies of food at those houses having been used in supplying meals to the general public and to members of the Armed Forces; and whether arrangements could be made on important traffic routes to ensure that sufficient food should be reserved for meals to road transport workers.

Major G. Lloyd George (Parliamentary Secretary to the Ministry of Food): Arrangements have recently been concluded with the Service Departments for members of the Armed Forces when travelling by road to be provided with the necessary supplies of food wherever possible. It would not be practicable to impose restrictions on roadside cafes in regard to the classes for whom they should cater. No catering establishment should experience difficulty in obtaining rationed foods, but in the prevailing shortage, difficulties may be experienced in regard to unrationed foods. Any catering establishment, however, in serious difficulties in regard to supplies should approach the local Food Executive Officer.

London-South Wales Coach Service

Mr. Ness Edwards (Caerphilly—Lab.), on July 23, asked the Parliamentary Secretary to the Ministry of War Transport if he was aware that a luxury coach service operated from London to South Wales twice a day; that this service was sometimes duplicated and triplicated; that it ran almost parallel to the railway passenger service; and if, in view of the inadequate omnibus transport for munition workers, he would terminate this extravagant use.

Col. Llewellin: I cannot identify the particular service to which Mr. Edwards refers but the Regional Transport Commissioner for the South Western Region reports that he has authorised a limited service from Cheltenham to Swansea and Treherbert which makes connections with London coaches.

Mr. Edwards pointed out that a substantial number of people who had been evacuated from London to South Wales used this service in order to come back to London because it was so cheap.

Colonel Llewellin said he was not aware of that. He thought they had to keep some of these cross-country services going. They were running at only one-quarter of what they were in pre-war days.

Mr. W. H. Mainwaring (Rhondda East—Lab.) asked the Parliamentary Secretary if he was aware of the astounding nature of his reply that it was necessary to run a cross-country service from Swansea and Treherbert to Gloucester because people could not travel any other way. Was he aware that workmen were idle because they could not be conveyed to employment owing to lack of buses in that area?

Colonel Llewellin replied that he would not like to say that there was a failure of transport in South Wales. They knew that transport was difficult in those valleys, but he would like to know of particular instances.

Provincial Buses in London

Colonel J. J. Llewellin, in a written answer on July 24 to Mr. Rostron Duckworth (Manchester, Moss Side—C.) stated that all but 149 of the provincial omnibuses in London had been returned and the remainder would be sent back next month. In most cases, the hire agreed was £25 a month, but in a few cases agreement had yet to be reached.

Station Refreshment Charges

Mr. David Adams (Consett—Lab.), on July 24, asked the Parliamentary Secretary to the Ministry of War Transport whether he was aware that the Great Western Railway Company were charging members of His Majesty's Forces at Oxford 4d. each for sandwiches consisting of one slice of white bread with a thin scraping of margarine and meat paste.

Colonel Llewellin, in a written reply, stated that the sandwiches sold at Oxford Station price 4d. were "meat roll" sandwiches. The prices were the same for Service personnel as for other travellers. There was a Service canteen for troops using Oxford station.

Transport of Perishable Foodstuffs

Mr. Evelyn Walkden (Doncaster—Lab.), on July 24, asked the Parliamentary Secretary to the Ministry of War Transport if he would cause enquiries to be made concerning the allegations of delay in transit of foodstuffs, and other goods, at the central station, Doncaster, of which he had been informed; also, would he urge all responsible railway officials to expedite the immediate transfer or movement of all perishable goods or foodstuffs to their destination.

Colonel Llewellin, in a written reply, stated that he was making enquiries into the cases to which Mr. Walkden referred and would communicate the result to him as soon as possible. All railway officials concerned had instructions to treat perishable foodstuffs as urgent and accord them priority.

Parliamentary Notes

L.M.S.R. Bill

The London Midland & Scottish Railway Bill received the Royal Assent on July 22.

British and Irish Railway Stocks and Shares

Stocks	Highest 1940	Lowest 1940	Prices July 31, 1941	Prices Rise/Fall
G.W.R.				
Cons. Ord.	52	22⅛	37½	+ 1½
5% Con. Pref. ...	103½	58	100	— ½
5% Red. Pref. (1950)	105½	88	104	—
4% Deb.	107½	90½	106½	— 1½
4½% Deb.	108½	96⅛	111	—
4½% Deb.	114⅛	96	115½	—
5% Deb.	124	106	129	—
2½% Deb.	66½	57	66	—
5% Rt. Charge ...	117⅛	97	125½	—
5% Cons. Guar. ...	117	90½	120⅛	— 1⅛
L.M.S.R.				
Ord.	24⅞	9	14⅛	— 1⅛
4% Pref. (1923) ...	60½	21⅜	43½	— ½
4% Pref.	70⅛	35	59½	+ ½
5% Red. Pref. (1955)	94½	60	84½	—
4% Deb.	101⅛	81	101½	— ½
5% Red. Deb. (1952)	109½	102	108	—
4% Guar.	93⅛	65	93⅛	— ⅛
L.N.E.R.				
5% Pref. Ord. ...	8⅜	1⅛	2⅞	+ ⅛
Def. Ord.	4⅜	1⅛	1⅜	— ⅛
4% First Pref. ...	60	20	43½	— ½
4% Second Pref. ...	22⅞	6½	16½	+ ½
5% Red. Pref. (1955)	80	34½	68½	—
4% First Guar. ...	86½	56	85	— ½
4% Second Guar. ...	77½	37	74½	—
3% Deb.	73½	54½	75	— ½
4% Deb.	97⅜	74	100½	—
5% Red. Deb. (1947)	107	96⅛	104	—
4½% Sinking Fund Red. Deb.	104	98	101½	—
SOUTHERN				
Pref. Ord.	79	34	54	— ½
Def. Ord.	22½	7	12⅜	+ 1⅛
5% Pref.	104½	58⅜	97½	— 1
5% Red. Pref. (1964)	105	85	104½	—
5% Guar. Pref. ...	116⅛	90	120⅜	— 2⅛
5% Red. Guar. Pref. (1957)	114 7/16	94	113½	—
4% Deb.	106⅜	84½	104	— ½
5% Deb.	122½	100	126½	—
4% Red. Deb. (1962–67)	106	96½	105	—
4% Red. Deb. (1970–80)	106⅜	93	105	—
FORTH BRIDGE				
4% Deb.	95½	87	94½	+ 2
4% Guar.	93½	81½	94½	+ 2
L.P.T.B.				
4½% "A"	116	103	113½	—
5% "A"	121½	107	123½	—
4½% "T.F.A." ...	105½	101	101½	—
5% "B"	116	102	109	— ½
"C"	65½	24	36½	— ½
MERSEY				
Ord.	26	18½	20½	—
4% Perp. Deb. ...	92½	86⅜	91½	—
3% Perp. Deb. ...	68	63	66½	—
3% Perp. Pref. ...	57	50½	56	—
IRELAND				
BELFAST & C.D.				
Ord.	4	3	4	—
G. NORTHERN				
Ord.	4⅛	1⅛	6⅜	+ ⅛
G. SOUTHERN				
Ord.	12½	4	8	+ 1
Pref.	15½	6	7⅜	+ ⅛
Guar.	36	15	23	— 1
Deb.	55½	40	50½	+ ½

Notes and News

Accident in Spain.—Thirteen people were killed and 25 injured, according to a Reuters message from Madrid, when the Asturias-Madrid express collided with a stationary engine at Pola de Gordón early on July 25. The engine had been stopped by a fallen tree. The sleeping, mail, and restaurant coaches of the express were destroyed.

Costa Rica Railway Co. Ltd.—The balance of 5 per cent. prior mortgage debentures (second series) outstanding was paid off at par on August 1, together with interest at the rate of 5 per cent. per annum from March 1, 1941, to July 31, 1941.

Yorkshire Airways Limited.—A general meeting of this company will be held on August 21 to receive the report of the liquidator and to determine, by extraordinary resolution, the manner in which the books, accounts, and documents of the company and of the liquidator shall be disposed of, and also to vote to a suitable charity any balance which may remain in the hands of the liquidator.

Canadian National Railways.—Gross earnings during June last were $25,642,352, an increase of $3,282,415, and operating expenses were $18,813,909, an advance of $2,015,179, leaving net earnings $1,267,236 higher, at $6,828,443. Aggregate gross earnings for the six months from January 1 are $141,715,488, an increase of $28,033,937, and the net earnings of $32,108,211 show an improvement of $15,908,129.

Canadian Pacific Railway.—Gross earnings for June were $18,496,000, an increase of $4,304,000, and expenses were $14,428,000, or $3,159,000 higher. Net earnings at $4,068,000 were $1,145,000 more than for June, 1940. For the first six months of 1941 gross earnings were $99,840,000, an increase of $24,455,000, and the net earnings of $19,919,000 were $7,283,000 greater than for the first six months of 1940.

Re-opening of Part of the Westchester Railroad.—On May 15, a 4½-mile stretch (entirely within the limits of New York) of the New York, Westchester & Boston Railroad was re-opened as part of the city-owned rapid transit system. The city has purchased the line from bondholders of the defunct electric suburban road; substituted third rail for the former overhead catenary construction; and placed in service re-designed elevated railway cars. None of the former rolling stock of the line has been taken over by the city; large numbers of the multiple-unit electric cars were repossessed by the New York, New Haven & Hartford Railroad. which had them converted for suburban steam train service at Boston, Mass. The passenger service of the New York, Westchester & Boston Railroad, a subsidiary of the New York, New Haven & Hartford Railroad, ran for 9 miles between New Rochelle and Port Chester. It was discontinued on and from November 1, 1937. Permission has been granted to dismantle the properties of the New York, Westchester & Boston Railroad in Westchester County. The court has directed the sale at public auction of the rolling stock, consisting of 42 carriages and a number of locomotives.

Great Southern Railways (Eire).—For the 28th week of 1941 the Great Southern Railways Company reports passenger receipts of £46,279 (against £40,576), and goods receipts of £49,244 (against £51,732), making a total of £95,523 (against £92,308) for the corresponding period of the previous year. The aggregate receipts to date are passenger £1,059,519 (against £911,673), goods £1,391,786 (against £1,260,934), making a total of £2,451,305 (against £2,172,607).

Railway and Other Reports

Bengal & North Western Railway Co. Ltd.—Gross earnings for the half-year to March 31, 1941, were Rs. 2,11,85,000, an increase of Rs. 16,10,996. In the expenses of Rs. 92,10,000 there was an advance of Rs. 7,33,624, leaving net earnings Rs. 8,77,372 higher, at Rs. 1,19,75,000. Company's share of net earnings, after Indian tax and charges, realised £393,300, an increase of £20,990. After providing for U.K. taxes, interest, and dividends on debenture and preference stocks, and allocating £35,000 to sinking fund, there remains £196,428, including £26,277 brought in. Interim dividend on the ordinary stock is 4 per cent. and bonus 4 per cent. for the half-year, leaving £19,428 to be carried forward.

North Western Road Car Co. Ltd.—This company, jointly controlled by the L.M.S.R., L.N.E.R. and Tilling & British Automobile Traction Limited, reports income to March 31, 1941, after depreciation, of £325,021 (£262,930). Deducting £68,554 (£87,472) for fuel, taxation and vehicle licences, £175,665 (£97,396) for income tax and E.P.T., £8,207 (nil) for war damage insurance provision, and £2,850 (£2,837) for directors' fees, there remains a net profit of £69,745 (£75,224), plus £20,078 brought in. The final dividend is 4½ per cent., making 9 per cent. tax free for the year, the same, and the carry forward is £22,324.

Bristol Tramways & Carriage Co. Ltd.—The interim dividend is 5 per cent., against 4 per cent.

Thomas Tilling Limited.—Interim dividend is 5 per cent. (same).

Tilling & British Automobile Traction Limited.—This company is controlled jointly by British Electric Traction Co. Ltd. and Thomas Tilling Limited, and is associated with the four main-line railway companies in the control of a number of road operators. Interim dividend is 3 per cent., tax-free, against 3½ per cent.

Greenwood & Batley Limited.—Profits for the year to March 31 last were £112,783 (£83,390), out of which £38,500, against £26,125, has been set aside for depreciation. A sum of £10,000 (nil) has been written off models, etc., and £5,000 (same) off securities. The final ordinary dividend of 10 per cent. makes 15 per cent. for the year (13 per cent.) and the carry forward is £32,454, against £32,457.

Contracts & Tenders

The Carborundum Co. Ltd. states that its London office address is now 3 & 4, Parkfield Parade, High Road, Ickenham, Middlesex. Telephone: Ruislip 3586.

Before the closing of the Yunnan-Indo-China frontier, traffic over the French Yunnan Railway had more than doubled owing to the war in China having diverted the Canton-Hankow traffic to this route. Orders were, therefore, placed in France and Belgium for new locomotives and rolling stock, but this equipment has not been received. Some second-hand wagon stock is, however, reported to have been purchased from Australia, according to the U.S. Department of Commerce.

The Ministry of Supply has issued the Control of Iron & Steel (No. 15) Order, 1941, which is effective from July 17. The chief changes under the Order are the incorporation in the distribution of steel supplies scheme of all iron products, except pig iron, but including iron castings, with effect from September 1, and the prohibition of the use of iron and steel in the production, repair, or maintenance of the articles not controlled under the Order without special authority. The main effect of this provision will be to control the use of iron or steel by undertakings who, in addition to making controlled products, also deal in non-controlled products. Copies of the Order may be obtained from the Stationery Office. Among the details which are given in the schedules of the Order are the symbols adopted by the various departments, as below :—

Symbol (to which "B" may or may not be added)	Department
H.O.	Home Office
A.R.P.	Ministry of Home Security
Ad.	Admiralty
Ad. M.	Admiralty
W.O.	War Office
M.S.	Ministry of Supply
A.M.	Air Ministry
M.A.P.	Ministry of Aircraft Production
S.D.	Scottish Departments
B.T.	Board of Trade
B.E.	Board of Education
M.H.	Ministry of Health
A.F.	Ministry of Agriculture and Fisheries
M.T.	Ministry of War Transport
M.F.	Ministry of Food
O.W.	Ministry of Works and Buildings
P.O.	General Post Office
M.D.	Mines Department
P.D.	Petroleum Department of the Mines Department
E.C.	Electricity Commissioners
N.I.	Ministry of Commerce of Northern Ireland
Ind.	War Supply Board (India)
A.R.	Emergency Services Organisation (Ministry of Aircraft Production)
L.A./A.R	Local Authorities (Ministry of Health)

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Railway Stock Market

Encouraged by moderate improvement in the volume of business, a better tendency developed in Stock Exchange markets, and in many directions, earlier declines were more than regained. Home railway securities provided the most prominent feature, in response to reports that the draft agreement between the Government and the companies has now been completed. Chief attention was given to the junior stocks, some of which advanced to the highest levels so far recorded this year, sentiment having benefited from the expectation that, at long last, stockholders will be provided with a basis on which to assess dividend prospects during the period of the war. The assumption is that in return for the hire of the railways, the Government will pay an annual rental, which it is also assumed in the market, will be adequate to provide dividends at the same rates as those paid for 1940. If, as is being suggested in the market, dividends at these rates will be virtually assured during the war and for three years afterwards, the junior stocks would still be undervalued, despite their advance in price. On the other hand, dividends at the 1940 levels cannot be regarded as generous; it will be recalled that the agreement made in the early part of that year would in certain circumstances, have permitted of higher dividend payments. Possibly the dividend policy followed by the companies may be conditioned to some extent by other clauses of the new agreement, and full details will naturally have to be awaited before a considered view can be taken as to the relation between current market prices and the actual facts of the revised financial arrangements. It may be remembered that there was a strong advance in home railway stocks on the high hopes aroused by the agreement made in the early part of 1940. As shown in the following table, prices were then much above those now current, and yields on the basis of last year's dividends are still substantial:

	Highest 1940	Current Price	1940 Div. %	Yield, %
Gt. Western Ord.	52	37½	4	10⅔
L.M.S.R. Ord. ...	24⅞	15	1½	10
,, 1923 Pref.	60½	44	4	9
L.N.E.R. 1st Pref. ...	60	44	4	9
,, 2nd Pref.	22⅞	16½	2	12⅛
Southern Preferred	79	55½	5	9
,, Deferred	22½	13	1½	9⅜
London Transport "C"	65½	36½	3	8⅛

These large yields reflect the uncertainty that must attach to the position, pending the terms of the new financial arrangement. It may be noted, however, that on the basis of the minimum dividends payable under the 1940 scheme, yields at current prices would in some instances be on the moderate side. That on Southern deferred, for instance, would work out at less than 6 per cent. on the minimum dividend of ¾ per cent., while on the 1 per cent. minimum dividend, L.M.S.R. ordinary would yield approximately 6⅝ per cent. The yields of around 9 per cent. obtainable on L.M.S.R. 1923 preference and on L.N.E.R. first preference continue to be attractive, bearing in mind that these two stocks must be regarded as assured of their full 4 per cent. dividends. In fact, the rise has so far not extended to the more senior stocks, despite their good investment merits and favourable yields. Great Western 5 per cent. preference, however, was around par; but the equivalent stock of the Southern is no better than 97½ at the time of writing, at which the yield is approximately 5⅛ per cent.; elsewhere, L.N.E.R. second guaranteed at 73 yields nearly 5½ per cent. Among the junior stocks the movement to higher prices has been general, and Great Western ordinary has risen three points on balance; Southern preferred shows a gain of 2¾ points.

Argentine railway securities subsequently reflected the better tendency of markets, but there were no individual features of importance, and at the time of writing a few of the preference stocks are fractionally lower on balance. Elsewhere, Leopoldina ordinary improved, and at one time Manila Railway issues made better prices on talk of U.S. Government control. Canadian Pacific improved. Following the notice to repay at 102½ on February 1 next, the quotation for Thomas Cook & Son Ltd. 6 per cent. guaranteed first mortgage debenture advanced from 50-60 to 98-103.

Traffic Table of Overseas and Foreign Railways Publishing Weekly Returns

	Railways	Miles open 1940-41	Week Ending	Traffic for Week: Total this year	Traffic for Week: Inc. or Dec. compared with 1940	No. of Weeks	Aggregate Traffics to Date: Totals: This Year	Aggregate Traffics to Date: Totals: Last Year	Aggregate Traffics to Date: Increase or Decrease	Shares or Stock	Prices: Highest 1940	Prices: Lowest 1940	Prices: July 31, 1941	Prices: Yield % (See Note)
				£	£		£	£	£					
South & Central America	Antofagasta (Chili) & Bolivia	834	27.7.41	26,070	+ 16,190	30	544,090	543,360	+ 730	Ord. Stk.	11¼	3½	5½	Nil
	Argentine North Eastern ...	753	26.7.41	ps. 217,600	– ps.40,100	4	ps. 757,200	ps. 689,500	+ ps.67,700	,,	3¾	1	2	Nil
	Bolivar	174	June, 1941	3,940	+ 10	26	23,072	24,580	– 1,508	6 p.c. Deb.	6½	5	6½	Nil
	Brazil	—	—	—	—	—	—	—	—	Bonds	8	5	4½	Nil
	Buenos Ayres & Pacific ...	2,801	19.7.41	ps.1,410,000	+ ps.263,000	3	ps.4,077,000	ps. 3,248,000	+ ps. 829,000	Ord. Stk.	4½	1	2½	Nil
	Buenos Aires Central ...	190	—	—	—	—	—	—	—	—	—	—	—	—
	Buenos Ayres Great Southern	5,082	19.7.41	ps.1,943,000	+ ps.12,000	3	ps.5,414,000	ps.5,727,000	– ps. 313,000	Ord. Stk.	10¼	3	4⅞	Nil
	Buenos Ayres Western ...	1,930	19.7.41	ps.790,000	+ ps.149,000	3	ps. 2,140,000	ps. 1,846,000	+ ps. 294,000	,,	8⅜	2	3½	Nil
	Central Argentine	3,700	26.7.41	ps. 1,751,850	+ ps.206,100	4	ps. 6,618,100	ps. 5,713,550	+ ps. 904,550	,,	8½	2	3⅜	Nil
	Do.	—	—	—	—	—	—	—	—	Dfd.	4	½	1½	Nil
	Cent. Uruguay of M. Video	972	19.7.41	20,603	+ 4,443	3	62,982	49,322	+ 13 660	Ord. Stk.	3½	1½	2	Nil
	Costa Rica	188	May. 1941	14,582	– 2,700	48	166,752	193,339	– 26,587	Stk.	23½	14	15½	12⅞
	Dorada	70	June, 1941	13,200	+ 300	26	75,300	72,000	+ 3,300	1 Mt. Db	99	97½	97	6⅛
	Entre Rios	808	26.7.41	ps. 308,100	+ ps.50,400	4	ps. 1,137,400	ps. 982,800	+ ps.154,600	Ord. Stk.	4	½	1½	Nil
	Great Western of Brazil ...	1,016	26.7.41	7,600	+ 1,100	30	272,600	309,300	– 36,700	Ord. Sh.	4/-	1/-	⅞	Nil
	International of Cl. Amer. ...	794	June, 1941	$514,782	+ $50,639	26	$3,036,575	$3,305,093	– $268,518	—	—	—	—	—
	Interoceanic of Mexico ...	—	—	—	—	—	—	—	—	1st Pref	9d.	9d.	½	Nil
	La Guaira & Caracas... ...	22½	June,1941	5,075	+ 315	26	35,220	39,435	– 4,215	—	6	4	—	—
	Leopoldina	1,918	19.7.41	26,902	+ 2,689	29	696,235	628,715	+ 67,520	Ord. Stk.	2⅞	¼	1	Nil
	Mexican	483	21.7 41	ps. 297,600	+ ps. 57,700	3	ps. 875,500	ps. 770,900	+ ps.104.600	,,	2/11½	⅝	⅞	Nil
	Midland of Uruguay ...	319	May, 1941	15,465	+ 1,693	48	135.666	121,022	+ 14,644	—	—	—	—	—
	Nitrate	386	15.7.41	5,122	– 4,454	28	58.832	97,938	– 39,106	Ord. Sh.	2¼	1½	2¼	5⅞
	Paraguay Central	274	26.7.41	$3,515,000	+ $246,000	30	$13,607,000	$15,774,000	– $2,167,000	Pr. Li. Stk.	41	36	28½	15⅜
	Peruvian Corporation ...	1,059	June, 1941	63,288	– 7,119	52	772,792	820,597	– 47,805	Pref.	4	1	2	Nil
	Salvador	100	24 5.41	c13.396	+ c1,586	47	c740,076	c928,424	– c188,348	—	—	—	—	—
	San Paulo	153½	20.7.41	36,250	– 3,262	29	1,078,852	1,069,444	+ 9,408	Ord. Stk.	50	23	31	6⅞
	Taltal	160	June, 1941	2,050	+ 1,220	52	32,595	29,590	+ 3,005	Ord. Sh.	15/11½	⅜	⅝	Nil
	United of Havana	1,346	26.7.41	21,332	+ 4,992	4	71,985	64,709	+ 7,276	Ord. Stk.	⅜	¼	¼	Nil
	Uruguay Northern	73	May, 1941	1,442	+ 329	48	12,771	12,356	+ 415	—	—	—	—	—
Canada	Canadian National	23,579	21.7.41	1,169,043	+ 187,602	29	31,704,333	25,761,851	+ 5,942,482	—	—	—	—	—
	Canadian Northern ...	—	—	—	—	—	—	—	—	Perp. Dbs.	86	68	91½	4⅜
	Grand Trunk	—	—	—	—	—	—	—	—	4 p.c. Gr.	105½	95⅛	101½	3⅛
	Canadian Pacific	17,153	21.7.41	886,000	+ 204,400	29	22,494.800	17,067,000	+ 5,427,800	Ord. Stk.	9⅞	4⅝	8⅝	Nil
India	Assam Bengal...	1,329	—	—	+ —		—	—	—	Ord. Stk.	99⅜	71	100	3
	Barsi Light	202	30.4.41	5,557	+ 2,107	4	19,687	13,920	+ 5,767	—	—	—	—	—
	Bengal & North Western ...	2,086	30.6.41	263,700	+ 21,548	13	808,125	837,801	– 29,676	Ord. Stk.	283	234	302	5⅞
	Bengal-Nagpur	3,269	31.5.41	283,725	+ 21,334	9	1,509,300	1,552,418	– 43,118	,,	96	83⅜	100¼	4
	Bombay, Baroda & Cl. India	2,986	20.7.41	192,750	– 37,500	16	3,212,925	3,151,875	+ 61,050	,,	108	99	108½	5½
	Madras & Southern Mahratta	2,939	30.4.41	196,125	– 4,637	4	586,500	575,869	+ 10,631	,,	104	97⅜	102½	7⅞
	Rohilkund & Kumaon ...	571	30.6.41	63,975	+ 1,524	13	192.900	202,019	– 9,119	,,	284	238	295	5⅞
	South Indian	2,500	20.4.41	127,626	+ 2,675	3	269.156	242,933	+ 26,223	,,	93¾	83	97½	4⅛
Various	Beira	204	May 1941	79,211	—	35	574,352	—	—	—	—	—	—	—
	Egyptian Delta	610	20.5.41	6,428	+ 1,837	6	25,728	19,436	+ 6,292	Prf. Sh.	7/10½	⅜	½	Nil
	Kenya & Uganda	1,625	—	—	—	—	—	—	—	—	—	—	—	—
	Manila	—	—	—	—	—	—	—	—	B. Deb.	53	44½	49	6⅛
	Midland of W. Australia ...	277	Mar. 1941	14,597	+ 2,092	39	134,201	115,376	+ 18,825	Inc. Deb.	88	80	87½	6⅛
	Nigerian	1,900	31.3.41	100,291	+ 53,330	52	2,494,207	2,108,686	+ 385,521	—	—	—	—	—
	Rhodesia	2,442	May 1941	479,908	—	35	3,763,016	—	—	—	—	—	—	—
	South Africa	13,287	14.6.41	738,985	+ 72,404	11	7,810,367	6,979,143	+ 831,224	—	—	—	—	—
	Victoria	4,774	Mar. 1941	973,121	+ 89,902	39	—	—	—	—	—	—	—	—

Note. Yields are based on the approximate current prices and are within a fraction of ⅛ Argentine traffics are given in pesos

† Receipts are calculated @ 1s. 6d. to the rupee